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FIRST LINES

OF THE

PRACTICE OF PHYSIC,

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For the USE of STUDENTS in the UNIVERSITY of EDINBURGH.

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PREFACE.

AN attempt to deliver a SYSTEM of the doctrines and rules proper for directing the PRACTICE of PHYSIC, is an undertaking of great difficulty; and, after an experience of forty years in that practice, as well as much reading and reflection, it is ſtill with great diffidence that I enter upon ſuch a work. My duties, however as a Profeſſor, have neceſſarily produced the following ſheets, intended chiefly as a text-book for the uſe of my ſtudents. I could have wiſhed to confine it to the hands of thoſe who attend my lectures, and hear the explanations and proofs which I deliver in ſupport of my ſeveral opinions; but I have found this to be impoſſible, and am therefore laid under the neceſſity of offering my work to the public, even in its preſent form. It is, indeed, proper that the public ſhould have acceſs to judge of the propriety of what I teach; and I willingly ſubmit to their judgment. I muſt acknowledge, however, I have found the commonly received ſyſtems to require ſo many alterations as well as additions, that it is with no ſmall anxiety, I preſume to offer my own, which is in ſo many reſpects new. At the ſame time, I cannot offer it, without a requeſt, that, in judging of a work, from its very nature conciſe, the learned will proceed with reſerve, and will not condemn my opinions till they ſhall be certain that they fully comprehend my meaning, and ſhall be acquainted with the proofs which I can produce to confirm my doctrines. They will, I hope, obſerve, that I mean to admit no inference of reaſoning, which I cannot, at the ſame time, render, in ſome meaſure, probable as a matter of fact. As, in the conduct of the following work, this has been my peculiar object, ſo, I flatter myſelf, that any diſputes which may happen concerning my doctrines, will always reſolve into queſtions with regard to facts, which, I hope, thoſe who may differ from me will be as ready as I am to ſubmit to the farther examination of the candid and unprejudiced.

In this third edition, I have endeavoured to render the following work more correct, and ſomewhat more complete than in any of the former.

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FIRST

PART I.

OF PYREXIÆ,

OR

FEBRILE DISEASES.

FIRST LINES

OF THE

PRACTICE OF PHYSIC.

INTRODUCTION.

I.

IN teaching the PRACTICE of PHYSIC, we teach to *diſcern*, *diſtinguiſh*, *prevent*, and *cure* diſeaſes, as they occur in particular perſons.

II.

The art of DISCERNING and DISTINGUISHING diſeaſes, may be beſt attained by an accurate and complete obſervation of their phenomena, as theſe occur in concourſe and ſucceſſion; and by a METHODICAL NOSOLOGY, or an arrangement of diſeaſes according to their genera and ſpecies, eſtabliſhed upon obſervation, abſtracted from all reaſoning. This arrangement we have attempted in another work, to which, in the courſe of this, we ſhall frequently refer.

III.

The PREVENTION of diſeaſes depends upon the knowledge of their remote cauſes, which are partly delivered in the general Pathology, and partly to be delivered in this treatiſe.

IV.

The CURE of diſeaſes is chiefly, and almoſt unavoidably, founded in the knowledge of their proximate cauſes. This laſt requires the knowledge of the Inſtitutions of Medicine,

cine, that is, the knowledge of the ſtructure, action, and functions of the human body; of the ſeveral changes which it may undergo; and of the ſeveral powers by which it can be changed. Our knowledge of theſe particulars, however, is ſtill incomplete, is in many reſpects doubtful, and has been often involved in miſtake and error. The doctrine, therefore, of proximate cauſes, founded upon it, muſt be frequently precarious and uncertain. It muſt depend, however, upon the extenſive knowledge and judgment of the phyſician to diſcern the degree of probability in the ſeveral parts of medical doctrine; to admit thoſe only, as a foundation of practice, which are ſimple, obvious, and certain; and, for the moſt part, to admit, as proximate cauſes, thoſe only which are eſtabliſhed as matters of fact, rather than as deductions of reaſoning. When this cannot be done with ſufficient certainty, the judicious and prudent phyſician will have recourſe to EXPE-

RIENCE alone ; always, however, aware of the hitherto incomplete and fallacious ſtate of Empiriciſm.

V.

With a ſtrict attention to theſe conſiderations in the whole of our conduct, we proceed to treat of particular diſeaſes, in the order of our Methodical Noſology.

PART I.

OF PYREXIÆ, OR FEBRILE DISEASES.

VI.

PYREXIÆ, or febrile diſeaſes, are diſtinguiſhed by the following appearances: After beginning with ſome degree of cold ſhivering, they ſhew ſome increaſe of heat, an increaſed frequency of pulſe, the interruption and diſorder of ſeveral functions, and particularly ſome diminution of ſtrength in the animal functions.

VII.

Theſe Pyrexiae form a claſs, which may be ſubdivided into the five orders of FEVERS, INFLAMMATIONS, ERUPTIONS, HEMORRHAGIES, and FLUXES. See Synopſis Noſologiae Methodicae, Edit. 3. 1780.

BOOK I.

OF FEVERS.

CHAP. I.

OF THE PHENOMENA OF FEVERS.

VIII.

Thoſe diſeaſes are more ſtrictly called FEVERS, which have the general ſymptoms of pyrexia, without any topical affection that is eſſential and primary, joined with them, which the other orders of the pyrexiae always have.

IX.

Fevers, on different occaſions, have different appearances in the number and diverſity of their ſymptoms, and are therefore very properly conſidered as of different genera and ſpecies. But we ſuppoſe, that there are certain circumſtances common to all the diſeaſes comprehended under this order, which are therefore thoſe eſſentially neceſſary to, and properly conſtituting the nature of fever. It is our buſineſs eſpecially to inveſtigate theſe ; and we expect to find them as they occur in the paroxyſm, or fit, of an intermittent fever, as this is moſt commonly formed.

X.

The phenomena to be obſerved in ſuch a paroxyſm are the following. The perſon is affected, firſt, with a languor or ſenſe of debility, a ſluggiſhneſs in motion, and ſome uneaſineſs in exerting it, with frequent yawning and ſtretching. At the ſame time, the face and extremities become pale, the features ſhrink, the bulk of every external part is diminiſhed, and the ſkin, over the whole body, appears conſtricted, as if cold had been applied to it. Now alſo, ſome coldneſs of the extremities, though little taken notice of by the patient, may be perceived by a byſtander. At length, the patient himſelf feels the cold, commonly firſt in his back, but, from thence, paſſing over the whole body; and now his ſkin feels warm to another perſon. The patient's ſenſe of cold increaſing, produces a tremor in all his limbs, with frequent ſuccuſſions or rigors of the trunk of the body. When this ſenſe of cold, and its effects, have continued for ſome time, they become leſs violent, and are alternated with warm fluſhings. By degrees, the cold goes off entirely, and a heat, greater than natural, prevails, and continues over the whole body. With this heat, the colour of the ſkin returns, and a preternatural redneſs appears, eſpecially in the face. Whilſt the heat and redneſs come on, the ſkin is relaxed and ſmoothed, but, for ſome time, it continues dry. The features of the face, and other parts of the body, recover their uſual ſize, and become even more turgid. When the heat, redneſs, and turgeſcence have increaſed and continued for ſome time, a moiſture appears upon the face, and, by degrees, becomes a ſweat, which at length prevails over the whole body. As this ſweat continues to flow, the heat of the body abates; the ſweat, after continuing ſome time, gradually ceaſes; the body returns to its uſual temperature, and moſt of the functions are reſtored to their ordinary ſtate.

XI.

This ſeries of appearances gives occaſion to divide the paroxyſm into three different ſtages, which are called the COLD, the HOT, and the SWEATING STAGES, or *Fits*.

In the courſe of theſe, a conſiderable change happens in the ſtate of ſeveral other functions, which is now to be mentioned.

XII.

Upon the firſt approach of languor, the pulſe becomes ſometimes ſlower, and always weaker than before. As the ſenſe of cold comes on, the pulſe becomes ſmaller, very frequent, and often irregular. As the cold abates, and the heat comes on, the pulſe becomes more regular, hard, and full; and, in theſe reſpects, increaſes till the ſweat breaks out. As the ſweat flows, the pulſe becomes ſofter, and leſs frequent, till, the ſweat ceaſing altogether, it returns to its uſual ſtate.

XIII.

The reſpiration alſo ſuffers ſome changes. During the cold ſtage, the reſpiration is ſmall, frequent, and anxious.; as the hot ſtage comes on, it becomes fuller, and more free, but is ſtill frequent and anxious, till the flowing of the ſweat relieves the anxiety, and renders the breathing leſs frequent, and more free. With the ceaſing of the ſweat, the breathing returns to its ordinary ſtate.

XIV.

The natural functions alſo ſuffer a change. Upon the approach of the cold ſtage, the appetite for food ceaſes, and does not return till the paroxyſm be over, or the ſweat has flowed for ſome time. Generally, during the whole of the paroxyſm, there is not only a want of appetite, but an averſion from all ſolid, and eſpecially animal food. As the cold ſtage advances, there frequently come on a ſickneſs and nauſea, which often increaſe to a vomiting of a matter for the moſt part bilious. This vomiting commonly puts an end to the cold ſtage, and brings on the hot. As the hot ſtage advances, the nauſea and vomiting abate, and, when the ſweat breaks out, they generally ceaſe altogether.

XV.

A conſiderable degree of thirſt is commonly felt during the whole courſe of the paroxyſm. During the cold ſtage, the thirſt ſeems to ariſe from the dryneſs and clammineſs of the mouth and fauces; but, during the hot ſtage, from the heat which then prevails over the whole body; and, as the ſweat flows, the mouth becomes moiſter, and the thirſt, together with the heat, gradually abates.

XVI.

In the courſe of a paroxyſm, there is often a conſiderable change in the ſtate of the ſecretions. The circumſtances juſt now mentioned, ſhow it in the ſecretion of the ſaliva and mucus of the mouth ; and it is ſtill more remarkable with reſpect to the urine. During the cold ſtage, the urine is almoſt colourleſs, and without cloud or ſediment. In the hot ſtage, it becomes high coloured, but is ſtill without ſediment. After the ſweat has flowed freely, the urine depoſits a ſediment, commonly lateritious, and continues to do ſo for ſome time after the paroxyſm is over.

XVII.

Till towards the end of a paroxyſm, ſtools ſeldom occur, except in certain uncommon caſes, which are attended throughout with a diarrhoea.

XVIII.

Analogous to theſe changes in the ſtate of the ſecretions, it frequently happens, that tumours, ſubſiſting on the ſurface of the body, ſuffer, during the cold ſtage of fevers, a ſudden and conſiderable detumeſcence, but generally, though not always, the tumours return to their former ſize, during the ſweating-ſtage. In like manner, ulcers are ſometimes dried up during the cold ſtage, and return again to diſcharge matter, during the ſweating ſtage, or after the paroxyſm is over.

XIX.

Certain changes appear alſo in ſenſation and thought. During the cold ſtage, the ſenſibility is often greatly impaired; but, when the hot ſtage is formed, the ſenſibility is recovered, and often conſiderably increaſed.

XX.

With reſpect to the intellectual functions, when the cold ſtage comes on, attention and recollection become difficult, and continue ſo, more or leſs, during the whole paroxyſm. Hence ſome confuſion of thought takes place, and often ariſes to a delirium, which ſometimes comes on at the beginning of the cold ſtage, but more frequently not till the hot ſtage be formed.

XXI.

It belongs alſo to this place to remark, that the cold ſtage ſometimes comes on with a drowſineſs and ſtupor, which often increaſe to a degree that may be called comatoſe, or apoplectic.

XXII.

We have ſtill to add, that, ſometimes, early in the cold ſtage, a headach comes on; but which, more commonly, is not felt till the hot ſtage be formed, and then it is uſually attended with a throbbing of the temples. The headach continues till the ſweat breaks out; but as this flows more freely, that gradually goes off. At the ſame time with the headach, there are commonly pains of the back, and of ſome of the great joints; and theſe pains have the ſame courſe with the headach.

XXIII.

Theſe are nearly the whole, and are, at leaſt, the chief of the phenomena which more conſtantly appear in the paroxyſm of an intermittent fever; and we have pointed out their ordinary concourſe and ſucceſſion. With reſpect to the whole of them, however, it is to be obſerved, that, in different caſes, the ſeveral phenomena are in different degrees; that the ſeries of them is more or leſs complete; and that the ſeveral parts or ſtages in the time they occupy, are in a different proportion to one another.

XXIV.

It is very ſeldom that a fever conſiſts of a ſingle paroxyſm, ſuch as we have now deſcribed; and it more generally happens, that, after the ſeries of phenomena mentioned, and after a certain length of time free from them, the ſame ſeries of phenomena again ariſe, and obſerve the ſame courſe as before; and theſe ſtates of fever and APYREXIA often continue to alternate with one another for many times. In ſuch caſes, the length of time from the end of one paroxyſm to the beginning of another, is called an INTERMISSION, and the length of time from the beginning of one paroxyſm to the beginning of another next ſucceeding, is called an INTERVAL.

XXV.

When the diſeaſe conſiſts of a number of paroxyſms, it is generally to be obſerved, that the intervals between them are nearly equal; but theſe intervals are of different lengths in different caſes. The moſt uſual interval is that of forty-eight hours, which is named the TERTIAN period. The next moſt common is that of ſeventy-two hours, and is named the QUARTAN period. Some other intervals alſo are obſerved, particularly, one of twenty-four hours, named therefore the QUOTIDIAN, and the appearance of this is pretty frequent. But all other intervals longer than that of the quartan are extremely rare, and probably are only irregularities of the tertian or quartan periods.

XXVI.

The paroxyſms of pure intermittent fevers are always finiſhed in leſs than twenty-four hours; and, though it happens, that there are fevers which conſiſt of repeated paroxyſms, without any entire intermiſſion between them; yet, in ſuch caſes, it is obſerved, that, though the hot and ſweating ſtages of the paroxyſms do not entirely ceaſe before the twenty-four hours from their beginning have expired, they ſuffer, however,

ever, before that time, a conſiderable abatement or REMISSION of their violence, and, at the return of the quotidian period, a paroxyſm is in ſome ſhape renewed, and runs the ſame courſe as before. This conſtitutes what is called a REMITTENT FEVER.

XXVII.

When in theſe remittents, the remiſſion is conſiderable, and the return of a new paroxyſm is diſtinctly marked by the ſymptoms of a cold ſtage at the beginning of it; ſuch fevers retain ſtrictly the appellation of REMITTENTS. But, when it happens, as it does in certain caſes, that the remiſſion is not conſiderable, is perhaps without ſweat, and that the returning paroxyſm is not marked by the moſt uſual ſymptoms of a cold ſtage, but chiefly by the aggravation or EXACERBATION of a hot ſtage, the diſeaſe is called a CONTINUED FEVER.

XXVIII.

In ſome caſes of continued fever, the remiſſions and exacerbations are ſo inconſiderable as not to be eaſily obſerved or diſtinguiſhed; and this has led phyſicians to imagine, that there is a ſpecies of fever ſubſiſting for ſeveral days together, and ſeemingly conſiſting of one paroxyſm only. This they have called a CONTINENT FEVER; but, in a long courſe of practice, we have not had an opportunity of obſerving ſuch a fever.

XXIX.

With reſpect to the form, or TYPE, of fevers, this further may be obſerved, that the quartan, while it has the longeſt interval, has, at the ſame time, the longeſt and moſt violent cold ſtage; but, upon the whole, the ſhorteſt paroxyſm: That the tertian having a ſhorter interval than the quartan, has, at the ſame time, a ſhorter and leſs violent cold ſtage; but a longer paroxyſm: And, laſtly, that the quotidian, with the ſhorteſt interval, has the leaſt of a cold ſtage; but the longeſt paroxyſm.

XXX.

The type of fevers is ſometimes changed in their courſe. When this happens, it is, generally in the following manner: Both tertians and quartans change into quotidians, quotidians into remittents, and theſe laſt become often of the moſt continued kind. In all theſe caſes, the fever has its paroxyſms protracted longer than uſual, before it changes into a type of more frequent repetition.

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XXXI.

From all this, a preſumption ariſes, that every fever conſiſts of repeated paroxyſms, and differs from others chiefly in the circumſtances and repetition of the paroxyſms; and, therefore, that it was allowable for us to take the paroxyſm of a pure intermittent as an example and model of the whole.

CHAP. II.

OF THE PROXIMATE CAUSE OF FEVER.

XXXII.

The proximate cauſe of fever ſeems hitherto to have eluded the reſearch of phyſicians; and we ſhall not pretend to aſcertain it in a manner that may remove every difficulty;

difficulty ; but we ſhall endeavour to make an approach towards it, and ſuch as we hope may be of uſe in conducting the practice in this diſeaſe.

XXXIII.

As the hot ſtage of fever is ſo conſtantly preceded by a cold ſtage, we preſume that the latter is the cauſe of the former ; and, therefore, that the cauſe of the cold ſtage is the cauſe of all that follows in the courſe of the paroxyſm. See Boerh. Aph. 756.

XXXIV.

To diſcover the cauſe of the cold ſtage of fevers, we may obſerve, that it is always preceded by ſtrong marks of a general debility prevailing in the ſyſtem. The ſmallneſs and weakneſs of the pulſe, the paleneſs and coldneſs of the extreme parts, with the ſhrinking of the whole body, ſufficiently ſhew that the action of the heart and larger arteries is, for the time, extremely weakened. At the ſame time, the languor, inactivity, and debility of the animal motions, the imperfect ſenſations, the feeling of cold, while the body is truly warm, and ſome other ſymptoms, all ſhew that the energy of the brain itſelf is, on this occaſion, greatly weakened ; and we preſume, that, as the weakneſs of the action of the heart can hardly be imputed to any other cauſe, this weakneſs alſo is a proof of the diminiſhed energy of the brain.

XXXV.

We ſhall hereafter endeavour to ſhew that the moſt noted of the remote cauſes of fever, as contagion, miaſmata, cold, and fear, are of a ſedative nature ; and therefore render it probable, that a debility is induced. When the paroxyſms of a fever have ceaſed to be repeated, they may be again renewed ; and are moſt commonly renewed, by the application of debilitating powers. And, further, the debility which ſubſiſts in the animal motions, and other functions through the whole of fever, renders it pretty certain, that ſedative or debilitating powers have been applied to the body.

XXXVI.

It is therefore evident, that there are three ſtates which always take place in fever, a ſtate of debility, a ſtate of cold, and a ſtate of heat ; and, as theſe three ſtates regularly and conſtantly ſucceed each other, in the order we have mentioned them, it is preſumed, that they are in the ſeries of cauſe and effect with reſpect to one another. This we hold as a matter of fact, even although we ſhould not be able to explain in what manner, or by what mechanical means theſe ſtates ſeverally produce each other.

XXXVII.

XXXVII.

How the ſtate of debility produces ſome of the ſymptoms of the cold ſtage, we cannot particularly explain, but refer it to a general law of the animal oeconomy, whereby it happens, that powers which have a tendency to hurt and deſtroy the ſyſtem, often excite ſuch motions as are ſuited to obviate the effects of the noxious power. This is the VIS MEDICATIRIX NATURÆ, ſo famous in the ſchools of phyſic; and it is probable, that many of the motions excited in fever are the effects of this power.

XXXVIII.

That the increaſed action of the heart and arteries, which takes place in the hot ſtage of fevers, is to be conſidered as an effort of the vis medicatrix naturae, has been long a common opinion among phyſicians;

and we are diſpoſed to aſſert, that ſome part of the cold ſtage may be imputed to the ſame power. We judge ſo, becauſe the cold ſtage appears to be univerſally a means of producing the hot; becauſe cold, externally applied, has very often ſimilar effects; and more certainly ſtill, becauſe it ſeems to be in proportion to the degree of tremor in the cold ſtage, that the hot ſtage proceeds more or leſs quickly to a termination of the paroxyſm, and to a more complete ſolution, and longer intermiſſion. See XXIX.

XXXIX.

It is to be particularly obſerved, that, in the time of the cold ſtage of fever, there ſeems to be a ſpaſm induced every where on the extremities of the arteries, particularly of thoſe upon the ſurface of the body. This appears from the ſuppreſſion of all excretions, and from the ſhrinking of the ex-

external parts; and although this may, perhaps, be imputed, in part, to the weaker action of the heart, in propelling the blood into the exreme veſſels; yet, as theſe ſymptoms often continue after the action of the heart is reſtored, there is reaſon to believe, that a ſpaſmodic conſtriction has taken place; that it ſubſiſts for ſome time, and ſupports the hot ſtage; for this ſtage ceaſes with the flowing of the ſweat, and the return of other excretions, which are marks of the relaxation of veſſels formerly conſtricted.

XL.

This then may be the idea of fever; that a ſpaſm of the extreme veſſels, however induced, may prove an irritation to the heart and arteries; and that this continues till the ſpaſm is relaxed or overcome. There are many appearances which ſupport this opinion; and there is little doubt that a ſpaſm does take place, and proves an irritation to the heart; and therefore may be conſidered as a principal part in the proximate cauſe of fever. It will ſtill, however, remain a queſtion, what is the cauſe of this ſpaſm, whether it be directly produced by the remote cauſes of fever, or if it be only a part of the operation of the vis medicatrix naturae.

XLI.

We are diſpoſed to be of the latter opinion, firſt, becauſe it remains ſtill certain, that a debility lays the foundation of fever; ſecondly, becauſe, ſuppoſing this uncertain, we can more eaſily perceive how debility induces ſpaſm, than how ſpaſm produces the debility, which always, more or leſs, appears; and, thirdly, we, eſpecially conclude, that the ſpaſm depends upon the debility; becauſe we perceive, that the degree of ſpaſm formed, and the obſtinacy of its continuance, depend, in many caſes, upon the power of the cauſes inducing debility, and upon the debility induced; for the more powerful the debilitating cauſes, and the greater the debility produced, the paroxyſms are the longer, and the more frequently repeated.

XLII.

From hence we are led to believe, that, together with the ſpaſm, there is an atony ſubſiſting in the extreme veſſels, and that the relaxation of the ſpaſm requires the reſtoring of the tone and action of theſe.

XLIII.

Some illuſtration and proof of this we expect will ariſe, from conſidering the ſymptoms which take place with reſpect to the functions of the ſtomach in fevers, ſuch as the anorexia, nauſea, and vomiting. (XIV.)

Theſe ſymptoms, in many caſes, manifeſtly depend upon a ſtate of debility or loſs of tone in the muſcular fibres of the ſtomach, and therefore may be preſumed to ſhew the ſame in the caſe of fever.

But, further, the connection or conſent, which we obſerve between the perſpiration and the appetite in healthy perſons, renders it probable, that the tone of the extreme veſſels on the ſurface of the body, and that of the muſcular fibres of the ſtomach, are connected or conſenting with each other; and that, therefore, in fevers, the want of appetite or of tone in the muſcular fibres of the ſtomach, may depend upon the atony of the extreme veſſels on the ſurface of the body.

And, laſtly, that the debility of the ſtomach which produces vomiting, actually depends upon an atony of the extreme veſſels on the ſurface of the body, appears particularly from a fact obſerved by Dr Sydenham.

In the attack of the plague, a vomiting happens, which prevents any medicine from remaining upon the ſtomach. And Dr Sydenham tells us, that he could not overcome this vomiting but by external means, applied to produce a ſweat or determination to the ſurface of the body.

The connection between the ſtate of the ſtomach, and that of the extreme veſſels on the ſurface of the body, appears from this alſo, that the vomiting, which ſo frequently happens in the cold ſtage of fevers, commonly ceaſes upon the coming on of the hot, and very certainly upon any ſweat's coming out, (XIV.) It is, indeed, probable, that the vomiting in the cold ſtage of fevers, is one of the means, employed by nature, for reſtoring the determination to the ſurface of the body; and it is a circumſtance affording a proof, both of this and of the general connection between the ſtomach and ſurface of the body, that emetics thrown into the ſtomach, and operating there, in the time of the cold ſtage, commonly put an end to it, and bring on the hot ſtage.

It alſo affords a proof of the ſame connection, that cold water taken into the ſtomach produces an increaſe of heat on the ſurface of the body, and is very often a convenient and effectual means of producing ſweat.

We draw a proof of the ſame connection from this alſo, that cold applied to the ſurface of the body, when it does not ſtop perſpiration, is always a powerful means of exciting appetite. It may likewiſe be conſidered, whether the fever, ſo conſtantly accompanying the digeſtion of food in the ſtomach, be not induced by filling the ſtomach, by relaxing its muſcular fibres, and thereby inducing an atony of the extreme veſſels?

Upon the whole, we think it ſufficiently probable, that the ſymptoms of anorexia, nauſea, and vomiting, depend upon, and are a proof of an atony ſubſiſting in the extreme veſſels on the ſurface of the body, and that this, therefore, is a principal circumſtance in the proximate cauſe of fever.

XLIV.

It may ſeem difficult to explain how an atony and ſpaſm can ſubſiſt, at the ſame time, in the ſame veſſels; but, whatever difficulty there may be in accounting for this, we conſider it as a matter of fact, and we ſhall therefore employ it in explaining the nature of fever.

XLV.

This atony we ſuppoſe to depend upon a diminution of the energy of the brain; and that this diminution takes place in fevers, we conclude, not only, as before, from the debility prevailing in ſo many of the functions of the body, mentioned above, but particularly from ſymptoms which are peculiar to the brain itſelf (XXXIV.). Delirium is a frequent ſymptom of fever; and as, from the phyſiology and pathology, we learn, that this ſymptom commonly depends upon ſome inequality in the excitement of the brain, or intellectual organ; we hence conclude, that, in fever, it denotes ſome diminution in the energy of the brain. Delirium, indeed, ſeems often to depend upon an increaſed impetus of the blood in the veſſels of the brain, and therefore attends phrenitis. It frequently appears alſo in the hot ſtage of fevers, accompanied with a headach and throbbing of the temples. But, as the impetus of the blood in the veſſels of the head is often conſiderably increaſed by exerciſe, external heat, paſſions, and other cauſes, without occaſioning any delirium, it muſt be ſuppoſed, that the ſame impetus, in the caſe of fever, produces delirium; for this reaſon only, that, at the ſame time, there is ſome cauſe which diminiſhes the energy of the brain, and prevents a free communication between the parts concerned in the intellectual functions. Upon the ſame principles alſo, we ſuppoſe there is another ſpecies of delirium, which depends more entirely on the diminiſhed energy of the brain; and may therefore ariſe when there is no unuſual increaſe of the impetus of the blood in the veſſels of the brain. Such ſeems to be the delirium occurring at the beginning of the cold ſtage of fevers, or in the hot ſtage of ſuch fevers as ſhew ſtrong marks of debility in the whole ſyſtem.

XLVI.

Upon the whole, our doctrine of fever is explicitly this. The remote cauſes (XXXV.)

are certain ſedative powers applied to the nervous ſyſtem, which, diminiſhing the energy of the brain, thereby produce a debility in the whole of the functions, (XXXIV.) and particularly in the action of the extreme veſſels. (XLII. XLIII.) Such, however, is, at the ſame time, the nature of the animal oeconomy, (XXXVII.) that this debility proves an indirect ſtimulus to the ſanguiferous ſyſtem; whence, by the intervention of the cold ſtage, and ſpaſm connected with it, (XXXVIII. XXXIX.) the action of the heart and larger arteries is increaſed, (XXXIX.) and continues ſo (XL.) till it has had the effect of reſtoring the energy of the brain, of extending this energy to the extreme veſſels, of reſtoring, therefore, their action, and thereby eſpecially overcoming the ſpaſm affecting them; upon the removing of which, the excretion of ſweat, and other marks of the relaxation of excretories, take place.

XLVII.

This doctrine will, as we ſuppoſe, ſerve to explain not only the nature of fever in general, but alſo the various caſes of it which occur. Before proceeding, however, to this, it may be proper to point out the opinions, and, as we judge, the miſtakes which have formerly prevailed on this ſubject.

XLVIII.

It has been ſuppoſed that a lentor or viſcidity prevailing in the maſs of blood, and ſtagnating in the extreme veſſels, is the cauſe of the cold ſtage of fevers and its conſequences. But there is no evidence of any ſuch viſcidity previouſly ſubſiſting in the fluids; and as it is very improbable that ſuch a ſtate of them can be ſuddenly produced, the ſuddenneſs with which paroxyſms come on, renders it more likely that the phenomena depend upon ſome cauſe acting upon the nervous ſyſtem, or the primary moving powers of the animal oeconomy. See Van Swieten apud Boerh. Aph. 755.

XLIX.

Another opinion, which has been almoſt univerſally received, is, that a noxious matter introduced into, or generated in the body, is the proximate cauſe of fever, and that the increaſed action of the heart and arteries, which makes ſo great a part of the diſeaſe, is an effort of the vis medicatrix naturae to expel this morbific matter, and, particularly, to change or concoct it, ſo as to render it either altogether innocent, or, at leaſt, fit for being more eaſily thrown out of the body. This doctrine, however, although of as great antiquity as any of the records of phyſic now remaining, and although it has been received by almoſt every ſchool of medicine, yet appears to me to reſt upon a very uncertain foundation. There are fevers produced by cold, fear, and other cauſes, with all the eſſential circumſtances of fever, and terminating by ſweat, and yet, at the ſame time, without any evidence or ſuſpicion of morbific matter. There have been fevers ſuddenly cured by a hemorrhagy, ſo moderate as could not carry out any conſiderable portion of a matter diffuſed over the whole maſs of blood; nor can we conceive how the morbific matter could be collected or determined to paſs off by ſuch an outlet as in that caſe is opened. Even ſuppoſing a morbific matter were preſent, there is no explanation given in what manner the concoction of it is performed; nor is it ſhewn, that any ſuch change does in fact take place. In certain caſes it is indeed evident, that a noxious matter is introduced into the body, and proves the cauſe of fever; but, even in theſe caſes, it appears, that the noxious matter is thrown out again, without having ſuffered any change; that the fever often terminates before the matter is expelled; and that, upon many occaſions, without waiting the ſuppoſed time of concoction, the fever can be cured, and that by remedies which do not ſeem to operate upon the fluids, or to produce any evacuation.

L.

While we thus reaſon againſt the notion of fevers being an effort of nature, for concocting and expelling a morbific matter, we by no means intend to deny that the cauſe of fever frequently operates upon the fluids, and, particularly, produces a putreſcent ſtate of them. We acknowledge, that this is frequently the caſe; but, at the ſame time, we maintain, that ſuch a change of the fluids is not commonly the cauſe of fever; that very often it is an effect only; and that there is no reaſon to believe the termination of the fever to depend upon the expulſion of the putrid matter.

LI.

Another opinion which has prevailed, remains ſtill to be mentioned. In intermittent fevers, a great quantity of bile is commonly thrown out by vomiting; and this is ſo frequently the caſe, that many have ſuppoſed an unuſual quantity of bile, and perhaps a peculiar quality of it, to be the cauſe of intermittent fevers. This, however, does not appear to be well founded. Vomiting, by whatever means excited, if often repeated, with violent ſtraining, ſeems to be powerful in emulging the biliary ducts, and commonly throws out a great deal of bile. This will happen eſpecially in the caſe of intermittent fevers. For, as in the ſtate of debility and cold ſtage of theſe fevers, the blood is not propelled in the uſual quantity into the extreme veſſels, and particularly into thoſe on the ſurface of the body, but is accumulated in the veſſels of the internal parts, and particularly in the vena portarum; ſo this may occaſion a more copious ſecretion of bile. Theſe conſiderations will, in ſome meaſure, account for the appearance of an unuſual quantity of bile in intermittent fevers; but the circumſtance which chiefly occaſions the appearance of bile in theſe caſes, is the influence of warm climates and ſeaſons. Theſe ſeldom fail to produce a ſtate of the human body, in which the bile is diſpoſed to paſs off, by its ſecretories, in greater quantity than uſual, and perhaps, alſo, changed in its quality, as appears from the diſeaſe of cholera, which ſo frequently occurs in warm ſeaſons. This diſeaſe, however, occurs often without fever; and we ſhall hereafter render it ſufficiently probable, that intermittent fevers, for the moſt part, ariſe from another cauſe, that is, from marſh effluvia; while, at the ſame time, there is no evidence of their ariſing from the ſtate of the bile alone. The marſh effluvia, however, commonly operate moſt powerfully in the ſame ſeaſon that produces the change of the bile; and, therefore, conſidering the vomiting, and other circumſtances of the intermittent fevers which here concur, it is not ſurpriſing, that autumnal intermittents are ſo often attended with effuſions of bile. This view of the ſubject does not lead us to conſider the ſtate of the bile, as the cauſe of intermittents, but merely as a circumſtance accidentally concurring with them, from the ſtate of the ſeaſon in which they ariſe. What attention this requires in the conduct of the diſeaſe, we ſhall conſider hereafter.

LII.

From this view of the principal hypotheſes which have been maintained hitherto, with reſpect to the proximate cauſe of fevers, it will appear, that theſe do not ariſe from changes in the ſtate of the fluids; while, on the other hand, almoſt the whole of the phenomena of fevers lead us to believe that they chiefly depend upon changes in the ſtate of the moving powers of the animal ſyſtem. Though we ſhould not be able to explain all the circumſtances of fevers, it is at leaſt of ſome advantage to be led into the proper train of inveſtigation. We have attempted to purſue it; and ſhall now endeavour to apply the doctrine we have delivered, to explaining the diverſity of fevers.

CHAP. III.

OF THE DIFFERENCE OF FEVERS, AND ITS CAUSES.

LIII.

With the moſt part of phyſicians, we ſuppoſe, that, in every fever, there is a power applied to the body, which has a tendency to hurt and deſtroy it, and produces certain motions in it, which deviate from the natural ſtate; and, at the ſame time, in every fever which has its full courſe, we ſuppoſe, that, in conſequence of the conſtitution of the animal oeconomy, there are certain motions excited, which have a tendency to obviate the effects of the noxious power, or to correct and remove them. Both theſe kinds of motions are conſidered as conſtituting the diſeaſe. The latter, which are of ſalutary tendency, and conſidered as the operations of the vis medicatrix naturae, we ſhall hereafter call the REACTION of the ſyſtem.

LIV.

From what has been delivered above, (XLVI.) it appears, that, in fever, the circumſtances of debility, ſpaſm, and reaction, are chiefly to be conſidered; and, therefore, according as theſe are different in degree, and different in proportion to one another, they will produce the chief differences of fevers.

LV.

LV.

To apply this more exactly, we maintain, that every fever of more than one day's duration, conſiſts of repeated paroxyſms; and that the difference of fevers, from the difference of the circumſtances, (LIV.) appears in the different ſtate of paroxyſms, and in the different circumſtances of their repetition. (XXXI.)

LVI.

That fevers generally conſiſt of repeated paroxyſms, we have alledged above (XXIV. XXVI. XXVIII. XXXI.) to be a matter of fact; but muſt here endeavour to confirm it, by aſſigning the cauſe.

LVII.

In every fever, in which we can diſtinctly obſerve any number of ſeparate paroxyſms, we conſtantly find that every paroxyſm is finiſhed in leſs than twenty-four hours; but, as we cannot perceive any thing in the cauſe of fevers determining to this, we muſt ſuppoſe it to depend on ſome general law of the animal oeconomy. Such a law ſeems to be that which ſubjects the oeconomy, in many reſpects, to a diurnal revolution. Whether this depends upon the original conformation of the body, or upon certain powers conſtantly applied to it, and inducing a habit, we cannot poſitively determine; but the returns of ſleep and watching, of appetites and excretions, and the changes which regularly occur in the ſtate of the pulſe, ſhew ſufficiently, that, in the human body, a diurnal revolution takes place.

LVIII.

It is this diurnal revolution, which, we ſuppoſe, determines the duration of the paroxyſms of fevers; and theſe paroxyſms being ſo univerſally limited, as in (LVII.) while no

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no other cauſe of this can be aſſigned, renders it ſufficiently probable, that their duration depends upon, and is determined by the revolution mentioned. That theſe paroxyſms are connected with that revolution, appears further from this, that, though the intervals of paroxyſms are different, in different caſes, the times of the acceſſion of paroxyſms are generally fixed to one time of the day; ſo that Quotidians come on in the morning, Tertians at noon, and Quartans in the afternoon.

LIX.

It is ſtill to be remarked, that, as Quartans and Tertians are apt to become Quotidians, theſe to paſs into the ſtate of remittents, and theſe laſt to become continued; and that, even in the continued form, daily exacerbations and remiſſions are generally to be obſerved; all this ſhews ſo much the power of diurnal revolution, that when, in certain caſes, the daily exacerbations and remiſſions are with difficulty diſtinguiſhed, we may ſtill preſume, that the general tendency of the oeconomy prevails, that the diſeaſe ſtill conſiſts of repeated paroxyſms, and, upon the whole, that there is no ſuch diſeaſe as that which the ſchools have called a Continent Fever. We expect that this doctrine will be confirmed by what we ſhall ſay hereafter, concerning the periodical movements obſerved in continued fevers.

LX.

It being thus proved, that every fever, of more than one day's duration, conſiſts of repeated paroxyſms; we, in the next place, remark, that the repetition of paroxyſms depends upon the circumſtances of the paroxyſms which are already formed. This appears from what is obſerved in (XXIX. and XXX.); for, from theſe it appears, that the longer paroxyſms are protracted, they are the ſooner repeated; and, therefore, that the cauſe of the frequent repetition is to be ſought for in the cauſe of the protraction of paroxyſms.

LXI.

The duration of the hot ſtage, in which the reaction is operating to take off the ſpaſm formed in the cold ſtage, is that upon which the duration of the whole paroxyſm chiefly depends. We may, therefore, ſuſpect, that the longer duration of the hot ſtage, is owing either to the obſtinacy of the ſpaſm, or to the weakneſs of the reaction; and it is probable, that ſometimes the one, and ſometimes the other of theſe circumſtances, takes place.

LXII.

Though the cauſe of ſpaſm may be the ſame in different perſons, it is obvious that the degree of it produced may be greater or leſs, according to the irritability of each particular perſon; and, therefore, the reaction in fever being given, the paroxyſm, or continuance of the hot ſtage, may be longer or ſhorter, according to the degree of ſpaſm that has been formed.

LXIII.

One cauſe of the obſtinacy of ſpaſm in fevers, may, I think, be clearly perceived. In inflammatory diſeaſes, there is a diatheſis phlogiſtica prevailing in the body, and this diatheſis we ſuppoſe to conſiſt in an increaſed tone of the whole arterial ſyſtem. When, therefore, this diatheſis accompanies fever, as it ſometimes does, it may be ſuppoſed to give occaſion to the febrile ſpaſm's being formed more ſtrongly, and thereby to produce more protracted paroxyſms. Accordingly, we find, that all inflammatory fevers are of the continued kind; and that all the cauſes of the diatheſis phlogiſtica have a tendency to change intermittent into continued fevers. As continued fevers, therefore, are often attended with the diatheſis phlogiſtica, we conclude, that, in many caſes, this is the cauſe of their continued form.

LXIV.

In many fevers, however, there is no evidence of any diatheſis phlogiſtica being preſent, or of any other cauſe of more conſiderable ſpaſm; and, in ſuch fevers, therefore, we muſt impute the protraction of paroxyſms, and the continued form of the fever, to the weakneſs of reaction. That this cauſe takes place, we conclude from hence, that, in many caſes of fever, wherein the ſeparate paroxyſms are the moſt protracted, and the moſt difficultly obſerved, we find the moſt conſiderable ſymptoms of a general debility; and, therefore, we conclude, that, in ſuch caſes, the protracted paroxyſms and continued form depend upon a weaker reaction; owing either to the cauſes of debility applied having been of a more powerful kind, or from circumſtances of the patient's conſtitution, favouring their operation.

LXV.

Upon theſe principles, we make a ſtep towards explaining in general the difference of fevers, and with ſome probability; but muſt own, that there is much doubt and difficulty in applying the doctrine to particular caſes. It applies tolerably well to explain the different ſtates of intermittents, as they are more purely ſuch, or as they approach more and more to the continued form: But ſeveral difficulties ſtill remain with reſpect to many circumſtances of intermittents; and more ſtill with reſpect to the difference of thoſe continued fevers, which are formed from intermittents, and thoſe which we have diſtinguiſhed in our Noſology, as more eſpecially entitled to the appellation of Continued. See Syn. Noſ. Meth. P. V. Ch. I. Sect. II.

LXVI.

The characters of intermittent and of continued fevers given in the ſecond edition of our Synopſis, were not ſufficient; and I have endeavoured to render them more ſo in the third edition, publiſhed laſt year; and, for ſuch perſons as may not look into that work, I think it neceſſary to ſay here,

That the fevers of a continued form, which, however, ſtill belong to the ſection of intermittents, may be diſtinguiſhed by their having paſſed from an intermittent or remittent form, to that of a continued; by their ſhewing ſome tendency to become intermittent, or at leaſt remittent; by their being known to have been occaſioned by marſh miaſmata; by the nature of the prevailing epidemic; and, for the moſt part, by their having but one paroxyſm, or one exacerbation and remiſſion, in the courſe of twenty-four hours. On the other hand, continued fevers, to be more ſtrictly ſo called, may be diſtinguiſhed, by their ſhewing little tendency to become intermittent or remittant in any part of their courſe, and eſpecially after the firſt week of their continuance; by their being occaſioned by human contagion, at leaſt, by other cauſes than the marſh miaſmata; by the nature of the prevailing epidemic; and by their having pretty conſtantly an exacerbation and remiſſion twice in the courſe of every twenty-four hours.

LXVII.

From the view given (LXIII. and LXIV.) of the cauſes of the protraction of paroxyſms; and, therefore, of the form of continued fevers, ſtrictly ſo called, it ſeems probable, that the remote cauſes of theſe operate by occaſioning either a phlogiſtic diatheſis, or a weaker reaction; for we can obſerve, that the moſt obvious difference of continued fevers depends upon the prevailing of one or other of theſe ſtates.

LXVIII.

Continued fevers have been conſidered as of great diverſity; but phyſicians have not been happy in marking theſe differences, or in reducing them to any general heads. The diſtinctions of the antients are not well underſtood, and, ſo far as either they, or the modern noſologiſts, have diſtinguiſhed continued fevers by a difference of duration, their diſtinctions are not well founded, and do not apply in ſuch a manner as to be of any uſe. We think it agreeable to obſervation, and to the principles above laid down, (LXIII. LXIV.) to diſtinguiſh continued fevers, according as they ſhew either an inflammatory irritation, or a weaker reaction.

LXIX.

This diſtinction is the ſame with that of fevers into the INFLAMMATORY and NERVOUS; the diſtinction at preſent moſt generally received in Britain. To the firſt, as a genus, we have given the name of Synocha; to the ſecond that of Typhus; and, little ſtudious whether theſe names be authoriſed by the antient uſe of the ſame terms, we depend upon their being underſtood by the characters annexed to them in our Noſology, which we think are founded on obſervation.

LXX.

By theſe characters we think continued fevers may be diſtinguiſhed in practice, and, if they may, the principles above laid down will be confirmed.

LXXI.

Beſide theſe differences of continued fever, now mentioned, we are not certain of having obſerved any other that can be conſidered as fundamental. But the moſt common form of continued fevers, in this climate, ſeems to be a combination of the two genera mentioned; and we have therefore given ſuch a genus a place in our Noſology, under the title of Synochus. We think, however, that the limits between the Synochus and Typhus, will be, with difficulty, aſſigned; and we are diſpoſed to believe, that the Synochus ariſes from the ſame cauſes as the Typhus, and is therefore only a variety of it.

LXXII.

The Typhus ſeems to be a genus comprehending ſeveral ſpecies. Theſe, however, are not yet well aſcertained by obſervation; and, in the mean time, we can perceive that many of the different caſes obſerved do not imply any ſpecific difference, and ſeem to be merely varieties, ariſing from a different degree of power in the cauſe, from different circumſtances of the climate or ſeaſon in which they happen, or, from different circumſtances in the conſtitution of the perſons affected.

LXXIII.

Some effects ariſing from theſe circumſtances, require to be particularly explained. One is an unuſual quantity of bile appearing in the courſe of the diſeaſe. This abundance of bile may poſſibly attend ſome continued fevers, ſtrictly ſo called; but it more commonly, for the reaſons above explained, attends intermittents; and, we believe, it might have been enumerated among the marks diſtinguiſhing the latter kind of fevers from the former. But, though an unuſual quantity of bile ſhould appear with continued fevers, we conſider it in this caſe, as in that of intermittents, as a coincidence only, owing to the ſtate of the ſeaſon, producing no different ſpecies or fundamental diſtinction, but merely a variety of the diſeaſe.

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LXXIV.

LXXIV.

Another effect of the circumſtances occaſionally varying the appearance of typhus, is a putreſcent ſtate of the fluids. Both the antients and the moderns, who are in general much diſpoſed to follow the former, have diſtinguiſhed fevers as putrid and non-putrid; but the notions of the antients, on this ſubject, were not ſufficiently correct to deſerve much notice; and it is only of late that the matter has been more accurately obſerved, and better explained.

From the diſſolved ſtate of the blood, as it appears when drawn out of the veins, or as it appears from the red blood's being diſpoſed to be effuſed, and run off by various outlets, and from ſeveral other ſymptoms, to be hereafter mentioned (CIV.), we have now no doubt that real putreſcency of the fluids takes place in fevers. This putreſcency, however, often attends intermittent, as well as continued fevers, and, of the continued kind, both the ſynochus and typhus, and all of them in very different degrees; ſo that, whatever attention it may deſerve in practice, there is no fixing ſuch limits to it as to admit of eſtabliſhing a ſpecies under the title of PUTRID.

LXXV.

Beſide differing by the circumſtances already mentioned, fevers differ alſo by their being accompanied with ſymptoms which belong to diſeaſes of the other orders of pyrexiae. This ſometimes happens in ſuch a manner, as to render it difficult to ſay which of the two diſeaſes is the primary one. Commonly, however, it may be aſcertained by the knowledge of the remote cauſe, and of the prevailing epidemic, or by obſerving the ſeries and ſucceſſion of ſymptoms.

LXXVI.

Moſt of our ſyſtems of phyſic have marked, as a primary one, a ſpecies of fever, under the title of HECTIC; but, as it is deſcribed, we have never ſeen it as a primary diſeaſe. We have conſtantly found it as a ſymptom of ſome topical affection, moſt commonly of an internal ſuppuration; and, as ſuch, we ſhall conſider it in another place.

LXXVII.

The diſtinction of the ſeveral caſes of intermittent fever we have not proſecuted here; both becauſe we cannot aſſign the cauſes of the differences which appear, and becauſe we ſuppoſe that the differences which, in fact, occur, may be readily underſtood from what is ſaid above, (XXV. XXVI. and XXVII.) and more fully from the Methodical Noſology, P. V. Cl. I. Sect. I.

CHAP. IV.

OF THE REMOTE CAUSES OF FEVER.

LXXVIII.

As fever has been conſidered as conſiſting chiefly in an increaſed action of the heart and arteries, phyſicians have ſuppoſed, that certain direct ſtimulants, fitted to produce this increaſed action, are the remote cauſes of fever. In many caſes, however, there is no evidence of ſuch ſtimulants being applied, and, in the caſes in which they are applied, they either produce only a temporary frequency of the pulſe, which cannot be conſidered as a diſeaſe; or, if they do produce a permanent febrile ſtate, it is by the intervention of a topical inflammation, which produces a diſeaſe different from what is ſtrictly called a fever. (VIII.)

LXXIX.

That direct ſtimulants are the remote cauſes of fever, ſeems farther improbable; becauſe the ſuppoſition does not account for the phenomena attending the acceſſion of fevers; and becauſe other remote cauſes can with greater certainty be aſſigned.

LXXX.

As fevers are ſo generally epidemic, it is probable, that ſome matter floating in the atmoſphere, and applied to the bodies of men, ought to be conſidered as the remote cauſe of fevers. Theſe matters preſent in the atmoſphere, and acting upon men, may be conſidered either as CONTAGION, or as MIASMATA.

LXXXI.

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Contagions have been ſuppoſed to be of great variety; and it is poſſible that they may be ſo; but that they truly are, does not appear clearly from any thing we know at preſent. The number of genera and ſpecies of contagious diſeaſes, of the claſs of pyrexiae, at preſent known, is not very great. They belong to the order of Fevers, of Exanthemata, or of Profluvia. Whether there be any belonging to the order of Phlegmaſiae, is doubtful; and, though it ſhould be ſuppoſed, it will not much increaſe the number of contagious pyrexiae. Of the contagious exanthemata and profluvia, the number of ſpecies is nearly aſcertained; and each of them is ſo far of a determined nature, that, though they have now been obſerved and diſtinguiſhed for many ages, and in many different parts of the earth, they have been always found to retain the ſame general character, and to differ only in circumſtances, which may be imputed to ſeaſon, climate, and other external cauſes, or to the peculiar conſtitution of the ſeveral perſons affected. It is, therefore, probable, that, in each of theſe ſpecies, the contagion is of one ſpecific nature, and that the number of contagious exanthemata or profluvia is hardly greater than the number of ſpecies taken notice of in our ſyſtems of noſology.

LXXXII.

While the contagious exanthemata and profluvia are thus limited, if we ſhould ſuppoſe the contagious pyrexiae to be ſtill of great and unlimited variety, it muſt be with reſpect to the genera and ſpecies of continued fevers. But, if we are right in limiting, as we have done, the genera of theſe fevers, (LXVIII.—LXXII.) it will be probable that the contagions which produce them are not of great variety; and this will be much confirmed, if we can render it probable that there is one principal, perhaps one common ſource of ſuch contagions.

LXXXIII.

To this purpoſe it is now well known, that the effluvia conſtantly ariſing from the living human body, if long retained in the ſame place, without being diffuſed in the atmoſphere, acquire a ſingular virulence, and, in that ſtate, applied to the bodies of men, become the cauſe of a fever which is very contagious. The late obſervations on jail and hoſpital fevers have fully proved the exiſtence of ſuch a cauſe; and it is ſufficiently obvious, that the ſame virulent matter may be produced in many other places. At the ſame time, the nature of the fevers ariſing renders it probable, that the virulent ſtate of human effluvia is the common cauſe of ſuch fevers, as they differ only in a ſtate of their ſymptoms, which may be imputed to the circumſtances of ſeaſon, climate, &c. concurring with the contagion, and modifying its force.

LXXXIV.

With reſpect to theſe contagions, though we have ſpoken of them above, as of a matter floating in the atmoſphere, it is proper to obſerve here, that they are never found to act but when they are near to the ſources from whence they ariſe; that is, either near to the bodies of men, from which they immediately iſſue, or near to ſome ſubſtances, which, as having been near to the bodies of men, are imbued with their effluvia, and in which ſubſtances theſe effluvia are ſometimes retained in an active ſtate for a very long time.

The ſubſtances thus imbued with an active matter, may be called *Fomites;* and it appears to me probable, that contagions, as they ariſe from fomites, are more powerful than as they ariſe immediately from the human body.

LXXXV.

Miaſmata are next to be conſidered. Theſe may ariſe from various ſources, and be of different kinds; but we know little of their variety or of their ſeveral effects. We know with certainty only one ſpecies of miaſma, which can be conſidered as the cauſe of fever; and, from the univerſality of this, it may be doubted if there be any other.

LXXXVI.

The miaſma, ſo univerſally the cauſe of fever, is that which ariſes from marſhes or moiſt ground, acted upon by heat. So many obſervations have now been made with reſpect to this, in ſo many different regions of the earth, that there is neither any doubt of its being in general a cauſe of fevers, nor of its being very univerſally the cauſe of intermittent fevers, in all their different forms. The ſimilarity of the climate, ſeaſon, and ſoil, in which intermittents ariſe, and the ſimilarity of the diſeaſes, ariſing in different regions, concur in proving that there is one common cauſe of theſe diſeaſes, and that this is the marſh miaſma.

What is the particular nature of this miaſma, we know not ; nor do we certainly know whether or not it differs in kind : But it is probable that it does not ; and that it differs only in the degree of its power, or perhaps in its quantity, in a given ſpace.

LXXXVII.

We have now rendered it probable, that the remote cauſes of fevers (VIII.) are chiefly Contagions or Miaſmata, and neither of them of great variety. We have ſuppoſed that miaſmata are the cauſe of intermittents, and contagions the cauſe of continued fevers, ſtrictly ſo named ; but we cannot, with propriety, employ theſe general terms. The notion of contagion properly implies a matter ariſing from the body of man under diſeaſe; and that of miaſma, a matter ariſing from other ſubſtances. But, as the cauſe of continued fevers may ariſe from fomites, and may, in ſuch caſes, be called a Miaſma; and as ~~other~~ miaſmata alſo may produce contagious diſeaſes, it will be proper to diſtinguiſh the cauſes of fevers, by uſing the terms *Human* or *Marſh* ~~or~~ *Effluvia*, rather than the general ones of Contagion, or Miaſma.

LXXXVIII.

To render our doctrine of fever conſiſtent and complete, it is neceſſary to add here, that thoſe remote cauſes of fever, human and marſh effluvia, ſeem to be of a debilitating or ſedative quality. They ariſe from a putreſcent matter. Their production is favoured, and their power increaſed by circumſtances which favour putrefaction;

and they often prove putrefactive ferments with reſpect to the animal fluids. As putrid matter, therefore, is always, with reſpect to animal bodies, a powerful ſedative, it can hardly be doubted that human and marſh effluvia are of the ſame quality. It is confirmed by this, that the debility which is always induced ſeems to be in proportion to the other marks we have of the power of thoſe cauſes.

LXXXIX.

Though we have endeavoured to ſhew that fevers generally ariſe from marſh or human effluvia, we cannot, with any certainty, exclude ſome other remote cauſes, which are commonly ſuppoſed to have at leaſt a ſhare in producing fevers. We proceed, therefore, to inquire concerning theſe cauſes; and the firſt to be taken notice of is, the power of cold applied to the human body.

XC.

The operation of cold on a living body, is ſo different in different circumſtances, as to be of difficult explanation; and this, therefore, is attempted with ſome diffidence.

Cold, in certain circumſtances, has manifeſtly a ſedative power. It can extinguiſh the vital principle entirely, either in particular parts, or in the whole body; and, conſidering how much the vital principle of animals depends upon heat, it cannot be doubted that the power of cold is always more or leſs directly ſedative.

But it is equally manifeſt, that, in certain circumſtances, cold proves a ſtimulus to the living body, and particularly to the ſanguiferous ſyſtem.

And, beſide the ſedative and ſtimulant powers of cold, it is manifeſtly alſo a powerful aſtringent, cauſing a contraction of the veſſels on the ſurface of the body, and thereby by producing paleneſs, and a ſuppreſſion of perſpiration. It is likewiſe probable that this conſtriction is in ſome meaſure communicated to the whole body, and that thereby the application of cold proves a tonic power with reſpect to the whole ſyſtem.

XCI.

Theſe ſeveral effects of cold do not all take place at the ſame time, but may be variouſly combined. The ſtimulant power taking place, obviates the effects that might otherwiſe have ariſen from the ſedative, and, in ſome meaſure, thoſe from the aſtringent power. But the ſtimulant and tonic powers of cold are commonly conjoined, and the former, perhaps, depend, in part, upon the latter.

XCII.

The morbid effects of cold ſeem to be chiefly the following: 1. A general inflammatory diſpoſition of the ſyſtem, which is commonly accompanied with rheumatiſm, or other phlegmaſia; 2. A catarrhal affection; 3. A gangrene of particular parts; 4. A palſy of a ſingle member; 5. A proper fever, which it often produces by its own power alone; but more commonly it is an exciting cauſe of fever, by concurring with the operation of human or marſh effluvia.

XCIII.

Cold is often applied to the human body without producing any morbid effects, and it is difficult to determine in what circumſtances it eſpecially operates to produce thoſe. It appears to me, that the morbid effects of cold depend partly upon certain circumſtances of the cold that is applied, and partly upon certain circumſtances of the perſon to whom it is applied.

XCIV.

The circumſtances of the cold applied, which ſeem to give it effect, are, 1. The intenſity or degree of cold applied; 2. The length of time during which it is applied; 3. The degree of moiſture at the ſame time applied; 4. Its being applied by a wind or current of air; 5. Its being a viciſſitude, or ſudden change of temperature, to a conſiderable degree, from heat to cold.

XCV.

The circumſtances of perſons rendering them more liable to be affected by cold, ſeem to be, 1. The weakneſs of the ſyſtem, and particularly the leſſened vigour of the circulation occaſioned by faſting, by evacuations,

cuations, by fatigue, by a laſt night's debauch, by exceſs in venery, by long watching, by much ſtudy, by reſt immediately after great exerciſe, by ſleep, and by preceding diſeaſe. 2. The body, or its parts, being deprived of their accuſtomed coverings. 3. One part of the body being expoſed to cold, while the reſt of the body is kept in its uſual, or a greater warmth.

XCVI.

The power of theſe circumſtances (XCV.) is demonſtrated by the circumſtances enabling perſons to reſiſt cold. Theſe are, exerciſe, a certain vigour of conſtitution, cordials, active paſſions, paſſions engaging attention and diminiſhing ſenſibility, habit diminiſhing ſenſibility, and increaſing the bathing power of generating heat; and, laſtly, a ſtate of the body in which ſenſibility is greatly diminiſhed, as in mania.

XCVII.

Beſide cold, there are other powers which ſeem to be the remote cauſes of fever, as Fear, Intemperance in Drinking, Exceſs in Venery, and other cauſes, which evidently weaken the ſyſtem. But, whether any of theſe ſedative powers be alone the remote cauſe of fever, or if they only operate either as they concur with the operation of marſh or human effluvia, or as they give an opportunity to the operation of cold, are queſtions not to be poſitively anſwered.

XCVIII.

As we have now mentioned the chief of the remote cauſes of fevers, we can further obſerve, that theſe will ariſe more or leſs readily, according as miaſmata and contagions are more or leſs powerful, or as they are more or leſs favoured by the concurrence of cold, and other ſedative powers.

CHAP. V.

OF THE PROGNOSIS OF FEVERS.

XCIX.

As fevers, by (XLVI. and LIII.) conſiſt of both morbid and ſalutary motions and ſymptoms, the tendency of the diſeaſe to a happy or a fatal iſſue, or the prognoſtic in fevers, has been eſtabliſhed, by marking the prevalence of the morbid or ſalutary ſymptoms; and it might be properly ſo eſtabliſhed, if we could certainly diſtinguiſh between the one and the other of theſe kinds of ſymptoms; but the operation of the reaction, or ſalutary efforts of nature, in curing fevers, is ſtill involved in ſo much obſcurity, that I cannot explain the ſeveral ſymptoms of it ſo clearly as to apply them to the eſtabliſhing of prognoſtics; and this, I think, may be done better, by marking the ſymptoms which ſhew the tendency to death in fevers.

C.

This plan of the prognoſtics in fevers muſt proceed upon our knowledge of the cauſes of death in general, and in fevers more particularly.

The cauſes of death, in general, are either direct or indirect.

The firſt are, thoſe which directly attack and deſtroy the vital principle, as lodged in the nervous ſyſtem, or deſtroy the organization of the brain immediately neceſſary to the action of the vital principle.

The ſecond, or the indirect cauſes of death, are thoſe which interrupt ſuch functions as are neceſſary to the circulation of the blood, and thereby neceſſary to the due continuance and ſupport of the vital principle.

Of theſe general cauſes, thoſe which operate more particularly in fevers ſeem to be, *firſt*, the *violence of re-action*, which, either by repeated violent excitements, deſtroys the vital power itſelf; or, by its violence, deſtroys the organization of the brain neceſſary to the action of that power; or, by the ſame violence, deſtroys the organization of the parts more immediately neceſſary to the circulation of the blood. *Secondly*, The cauſe of death in fevers may be a *poiſon*, that is, a power capable of deſtroying the vital principle; and this poiſon may be either the miaſma or contagion which was the remote cauſe of the fever, or it may be a putrid matter generated in the courſe of the fever. In both caſes, the operation of ſuch a power appears either as acting chiefly on the nervous ſyſtem, inducing the ſymptoms of debility; or, as acting upon the maſs of blood, inducing a putreſcent ſtate in it, and in the fluids derived from it.

CI.

From all this, we think the ſymptoms ſhewing the tendency to death in fevers, may be diſcovered by their being either the ſymptoms of *violent re-action*, of *great debility*, or of *a ſtrong tendency to putrefaction in the fluids*; and, upon this ſuppoſition, we proceed now to mark thoſe ſymptoms more particularly.

CII.

The ſymptoms which denote the violence of re-action, are, 1. The increaſed force, hardneſs, and frequency of the pulſe. 2. The increaſed heat of the body. 3. Thoſe ſymptoms which are the marks of a general inflammatory diatheſis, and more eſpecially thoſe of a particular determination to the brain, lungs, or other important viſcera. 4. Thoſe which are the marks of the cauſe of violent re-action; that is, of a ſtrong ſpaſm, appearing in the ſuppreſſion of excretions.

CIII.

The ſymptoms which denote a great degree of debility, are,

In the ANIMAL FUNCTIONS; 1. the weakneſs of the voluntary motions; 2. the irregularity of the voluntary motions, depending on their debility; 3. the weakneſs of ſenſation; 4. the weakneſs and irregularity of the intellectual operations.

In the VITAL FUNCTIONS; 1. the weakneſs of the pulſe; 2. the coldneſs or ſhrinking of the extremities; 3. the tendency to a *deliquium animi* in an erect poſture; 4. the weakneſs of reſpiration.

In the NATURAL FUNCTIONS; 1. the weakneſs of the ſtomach, as appearing in anorexia, nauſea, and vomiting; 2. involuntary excretions, depending upon a palſy of the ſphincters; 3. difficult deglutition, depending upon a palſy of the muſcles of the fauces.

CIV.

Laſtly, The ſymptoms expreſſing the putreſcent ſtate of the fluids, are,

1. In the ſtomach; the loathing of animal food, nauſea, and vomiting, great thirſt, and a deſire of acids.

2. In the maſs of blood; A. the blood drawn out of the veins not coagulated as uſual; B. hemorrhagy from different parts, without marks of increaſed impetus; C. effuſions under the ſkin or cuticle, forming petechiae, maculae, and vibices; D. effuſions of a yellow ſerum under the cuticle.

3. In the ſtate of the excretions; frequent, looſe and foetid ſtools; high coloured turbid urine; foetid ſweats; and the foetor of bliſters.

4. The cadaverous ſmell of the whole body.

CV.

Theſe ſeveral ſymptoms have very often, each of them ſingly, a ſhare in determining the prognoſtic; but more eſpecially by their concurrence and particular combination with one another.

CVI.

On the ſubject of the prognoſtic, it is proper to obſerve, that many phyſicians have been of opinion, that there is ſomething in the nature of fevers which generally determines them to be of a certain duration; and, therefore, that their terminations, whether in health or in death, happen at certain periods of the diſeaſe rather than at others. Theſe periods are called the CRITICAL DAYS, carefully marked by Hippocrates and other antient phyſicians, and alſo by many moderns of the greateſt eminence in practice; whilſt, at the ſame time, many moderns of no inconſiderable authority, deny their taking place in the fevers of theſe northern regions which we inhabit.

CVII.

I am of opinion that the doctrine of the antients, and particularly that of Hippocrates, on this ſubject, was well founded; and that it is juſt and true, even with reſpect to the fevers of our climate.

CVIII.

I am of this opinion, *firſt*, becauſe I obſerve, that the animal oeconomy is readily ſubjected to periodical movements, both from its own conſtitution, and from habits which are readily produced in it. *Secondly*, Becauſe I obſerve periodical movements to take place in the diſeaſes of the human body with great conſtancy and exactneſs, as in the caſe of intermittent fevers, and many other diſeaſes.

CIX.

Theſe conſiderations render it probable, that exact periodical movements may take place in continued fevers; and I think there is evidence of ſuch movements actually taking place in theſe fevers.

CX.

The critical days, or thoſe on which we ſuppoſe the termination of continued fevers eſpecially to happen, are, the *third*, *fifth*, *ſeventh*, *ninth*, *eleventh*, *fourteenth*, *ſeventeenth*, and *twentieth*. We mark none beyond this laſt; becauſe, though fevers are ſometimes protracted beyond this period, it is, however, more rarely; and we have not a ſufficient number of obſervations to aſcertain the courſe of them; and further, becauſe it is probable, that, in fevers long protracted, the movements become leſs exact and regular, and are therefore leſs eaſily obſerved.

CXI.

That the days now mentioned are the critical days, is, we think, proved by the particular facts which are found in the writings of Hippocrates. From theſe, as collected from the ſeveral writings of that author by *Mr de Haen*, it appears, that of one hundred and ſixty-three inſtances of the termination of fevers which happened on one or other of the firſt twenty days of the diſeaſe, there are one hundred and ſeven, or more than two thirds of the whole number, which happened on one or other of the eight days above mentioned; that none happened on the ſecond or thirteenth day; and upon the eighth, tenth, twelfth, fifteenth, ſixteenth, eighteenth, and nineteenth, there are but eighteen inſtances of termination, or one ninth of the whole.

CXII.

As the terminations which happen on the ſeven days laſt mentioned, upon the whole, are few, and, upon any one of them, fewer than thoſe which happen on any of our ſuppoſed critical days, there are, therefore, nine days which may be called NON-CRITICAL; while, on the other hand, the many terminations which happened on the ſeventh, fourteenth, and twentieth days, both give a proof of critical days in general, and that theſe are the chief of them. Hereafter we ſhall mention an analogy that renders the power of the other critical days ſufficiently probable.

CXIII.

It appears further, that as, of the terminations which were final and ſalutary, not a tenth part happened on the non-critical days; and of the terminations which were final and fatal, though the greater number happened on the critical days, yet above a third of them happened on the non-critical; ſo it is probable, that the tendency of the animal oeconomy is to obſerve the critical days, and that it is by the operation of ſome violent and irregular cauſe, the courſe of things is ſometimes turned to the non-critical.

CXIV.

What has been ſaid, renders it ſufficiently probable, that it is the general tendency of the animal oeconomy to determine the periodical movements in fevers to be chiefly on the critical days. But, at the ſame time, we muſt acknowledge it to be a general tendency only, and that, in particular caſes, many circumſtances may occur to diſturb the regular courſe of it. Thus, though the chief and more remarkable exacerbations in continued fevers happen on the critical days, there are truly exacerbations happening every day, and theſe, from certain cauſes, may become conſiderable and critical. Further, though intermittent fevers are certainly very ſtrongly determined to obſerve a tertian or quartan period, we know, there are circumſtances which prevent them from obſerving theſe periods exactly, and render them either anticipating or poſtponing ſo much, that the days of paroxyſms come to be quite changed; and it is allowable to ſuppoſe, that the like may happen with reſpect to the exacerbations of continued fevers, and thereby diſturb the regular appearance of critical days.

A particular inſtance of this occurs with reſpect to the ſixth day of fevers. In the writings of Hippocrates, there are many inſtances of terminations happening on the ſixth day; but it is not therefore reckoned among the critical days; becauſe, of the terminations happening on that day, there is not one of them which proves finally of a ſalutary kind; that the greater number are fatal; and that all the reſt are imperfect, and followed with a relapſe. All this ſhews, that ſome violent cauſe had, in theſe caſes, produced a deviation from the ordinary courſe of nature; that the terminations on the ſixth day are nothing more than anticipations of the ſeventh, and therefore a proof of the power of this laſt.

CXV.

The doctrine of critical days has been much embarraſſed by by ſome diſſonant accounts of it, which appear in the writings im-

imputed to Hippocrates. But this may be accounted for from theſe writings being truly the works of different perſons, and from the moſt genuine of them having ſuffered many corruptions; ſo that every thing, which is inconſiſtent with the facts above laid down, may be imputed to one or other of theſe cauſes.

CXVI.

This further has eſpecially diſturbed the doctrine of critical days, that Hippocrates himſelf attempted, perhaps too haſtily, to eſtabliſh general rules, and to bring the doctrine to a general theory, drawn from Pythagorean opinions concerning the power of numbers. It is this which ſeems to have produced the doctrine of odd days, and of a quaternary and ſeptenary period, which appear ſo often in the writings of Hippocrates. Theſe, however, are inconſiſtent with the facts above laid down; and, indeed,

deed, as Aſclepiades and Celſus have obſerved, are inconſiſtent with one another.

CXVII.

We think, therefore, the critical days above aſſigned are truly the critical days of Hippocrates, and may be conſiſtently explained in the following manner.

CXVIII.

From the univerſality of tertian or quartan periods in intermittent fevers, we cannot doubt of there being, in the animal oeconomy, a tendency to obſerve ſuch periods; and the critical days above mentioned are conſiſtent with this tendency of the oeconomy, as all of them mark either tertian or quartan periods. Theſe periods, however, are not promiſcuouſly mixed, but occupy conſtantly their ſeveral portions in the progreſs of the diſeaſe; ſo that, from the beginning to the eleventh day, a tertian period takes place; and, from the eleventh to the twentieth, and perhaps longer, a quartan period is as ſteadily obſerved.

CXIX.

What determines the periods to be changed about the eleventh day, we have not clearly perceived; but the fact is certain; for there is no inſtance of any termination on the thirteenth, that is, the tertian period next following the eleventh; but, upon the fourteenth, ſeventeenth, and twentieth, which mark quartan periods, there are forty-three inſtances of terminations, and ſix only on all the intermediate days between theſe.

This prevalence of a quartan period leaves no room for doubting, that the twentieth, and not the twenty-firſt, is the critical day marked by Hippocrates, though the laſt is mentioned as ſuch in the common edition of the Aphoriſms, taken from an erroneous manuſcript, which Celſus alſo ſeems to have copied.

CXX.

A conſiſtency with the general tendency of the ſyſtem renders the ſeries of critical days we have mentioned, probably the true one; and the only difficulty that remains in finding what we have delivered to be the ſame with the genuine doctrine of Hippocrates is, the frequent mention of the fourth as a critical day. There are, indeed, more inſtances of terminations happening on this day than on ſome of thoſe days we have aſſerted to be truly critical; but its inconſiſtency with the more general tendency, and ſome other conſiderations, lead us to deny its being naturally a critical day, and to think, that the inſtances of terminations, which have really occurred on the fourth day, are to be reckoned among the other irregularities which happen in this matter.

CXXI.

We have thus endeavoured to ſupport the doctrine of critical days, chiefly upon the particular facts to be found in the writings of Hippocrates: We might alſo produce many other teſtimonies of both antient and modern times; but we muſt own that ſome of theſe may be ſuſpected to have ariſen rather from a veneration of Hippocrates than from accurate obſervation.

CXXII.

With reſpect to the opinions of many moderns who deny the prevalence of critical days, we think they are to be little regarded; for we know the obſervation of the courſe of continued fevers to be difficult and fallacious; and therefore the regularity of that courſe may have often eſcaped inattentive and prejudiced obſervers.

CXXIII.

Our own obſervations amount to this, that fevers with moderate ſymptoms, generally caſes of the ſynocha, frequently terminate in nine days, or ſooner, and very conſtantly on one or other of the critical days which fall within that period; but, it is very rare, in this climate, that caſes of either the typhus or ſynochus terminate before the eleventh day; and, when they do terminate on this day, it is for the moſt part fatally. When they are protracted beyond this time, I have very conſtantly found that their terminations were upon the fourteenth, ſeventeenth, or twentieth day.

In ſuch caſes, the ſalutary terminations are ſeldom attended with any conſiderable evacuation. A ſweating frequently appears, but is ſeldom conſiderable; and I have hardly ever obſerved critical and deciſive terminations, attended with vomiting, evacuations by ſtool, or remarkable changes in the urine. The ſolution of the diſeaſe is chiefly to be diſcerned from ſome return of ſleep and appetite, the ceaſing of delirium, and an abatement of the frequency of the pulſe. By theſe ſymptoms we can often mark a criſis of the diſeaſe; but it ſeldom happens ſuddenly and entirely, and it is moſt commonly from ſome favourable ſymptoms on one critical day, that we can announce a more entire ſolution on the next following.

Upon the whole, I am perſuaded, that, if obſervations ſhall be made with attention, and without prejudice, I ſhall be allowed to conclude with the words of the learned and ſagacious Gaubius, 'Fallor, ni ſua conſtiterit HIPPOCRATI auctoritas, GALENO fides, NATURÆ virtus et ordo.'

CHAP. VI.

OF THE METHOD of CURE IN FEVERS.

SECT. I.

OF THE CURE OF CONTINUED FEVERS.

CXXIV.

As it is allowed that, in every fever which has its full courſe, there is an effort of nature of a ſalutary tendency, it might be ſuppoſed that we ſhould leave the cure of fevers to the operations of nature, or that our art ſhould be only directed to ſupport and regulate theſe operations, and that we ſhould form our indications accordingly. This plan, however, we cannot adopt, becauſe the operations of nature are very precarious, and are not ſo well underſtood as to enable us to regulate them properly. We think, that truſting to theſe operations has often given occaſion to a negligent and inert practice; and we believe that an attention to the operations of nature may be often ſuperſeded by art.

CXXV.

The plan which to me appears to be moſt ſuitable, is that which forms the indications of cure with the view of obviating the tendency to death; while, at the ſame time, the means of executing theſe indications are directed by a proper attention to the proximate cauſe of fevers.

Upon this plan, in conſequence of what has been laid down above on the ſubject of the prognoſtic, we form three general indications in the cure of continued fevers; and the one or other of theſe is to be employed as the circumſtances of the fever (CII. CIII. or CIV.) ſhall direct.

The firſt is, *to moderate the violence of re-action.*

The ſecond is, *to remove the cauſes, or obviate the effects of debility.* And,

The third is, *to obviate or correct the tendency of the fluids to putrefaction.*

CXXVI.

The firſt indication may be anſwered, that is, the violence of re-action may be moderated,

1. By all thoſe means which diminiſh the action of the heart and arteries.

2. By thoſe means which take off the ſpaſm of the extreme veſſels, which we ſuppoſe to be the chief cauſe of violent re-action.

CXXVII.

The action of the heart and arteries may be diminiſhed,

1. By avoiding or moderating thoſe irritations which, in one degree or other, are almoſt conſtantly applied to the body.
2. By the uſe of certain ſedative powers.
3. By diminiſhing the tenſion and tone of the arterial ſyſtem.

CXXVIII.

The irritations (CXXVII. 1.) almoſt conſtantly applied are, the impreſſions made upon our ſenſes; the exerciſe of the body and mind; and the taking in of aliments. The avoiding of theſe as much as poſſible, or the moderating of their force, makes what is properly called the ANTIPHLOGISTIC REGIMEN, proper to be employed in almoſt every continued fever.

CXXIX.

The conduct of this regimen is to be directed by the following rules and conſiderations.

1. Impreſſions on the external ſenſes, as ſtimulant to the ſyſtem, and a chief ſupport of its activity, ſhould be avoided as much as poſſible; thoſe, eſpecially, of more conſtant application, thoſe of a ſtronger kind, and thoſe which give pain and uneaſineſs.

No impreſſion is to be more carefully guarded againſt than that of external heat; and, at the ſame time, every other means of increaſing the heat of the body is to be ſhunned. Both theſe precautions are to be obſerved as ſoon as a hot ſtage is fully formed, and to be attended to during its continuance, except in certain caſes, where a determination to ſweating is neceſſary, or where the ſtimulant effects of heat may be compenſated by circumſtances which determine it to produce a relaxation and revulſion.

2. All motion of the body is to be avoided, eſpecially that which requires the exerciſe of its own muſcles; and that poſture of the body is to be choſen which employs the feweſt muſcles, and which keeps none of them long in a ſtate of contraction. Speaking, as it accelerates reſpiration, is particularly to be avoided.

It is to be obſerved, that every motion of the body is more ſtimulant, in proportion as the body is weaker.

3. The exerciſe of the mind alſo is a ſtimulus to the body; and, therefore, all impreſſions which lead to thought, and thoſe eſpecially which may excite emotion or paſſion, are to be carefully avoided.

With reſpect to avoiding impreſſions of all kinds, an exception is to be made in the caſe of a delirium coming on, when the preſenting of accuſtomed objects may interrupt and divert the irregular train of ideas then ariſing in the mind.

4. The preſence of recent aliment in the ſtomach, proves always a ſtimulus to the ſyſtem, and ought, therefore, to be as moderate as poſſible. A total abſtinence for ſome time may be of ſervice; but, as this cannot be long continued with ſafety, we muſt avoid the ſtimulus of aliment, by chooſing that kind which gives the leaſt. We ſuppoſe that alimentary matters are more ſtimulant, according as they are more alkaleſcent; and this leads to avoid all animal, and to uſe only vegetable food.

Our drinks alſo may prove ſtimulant; and, therefore, aromatic and ſpiritous liquors are to be avoided; and, in anſwering the preſent indication, all fermented liquors, except thoſe of the loweſt quality, are to be abſtained from.

CXXX.

Beſide thoſe ſtimulant powers more conſtantly applied, there are others, which, though occaſional only, yet, as they commonly accompany fevers, muſt be attended to and removed.

One is, the ſenſe of thirſt, which, as a powerful ſtimulus, in one way or other, ought always to be removed.

Another ſtimulus frequently ariſes from crudities, or corrupted humours in the ſtomach; and it is to be removed by vomiting, dilution, or the uſe of acids.

A third ſtimulus often ariſes from the preternatural retention of faeces in the inteſtines; and ought to be removed by frequent laxative glyſters.

A fourth ſtimulus to be conſtantly ſuſpected in fevers is, a general acrimony of the fluids, as produced by the increaſe of motion and heat, joined with an interruption of the excretions. This acrimony is to be obviated or removed by the taking in of large quantities of mild antiſeptic liquors.

CXXXI.

The avoiding of irritation in all theſe particulars, (CXXVIII. and CXXIX.) conſtitutes the antiphlogiſtic regimen abſolutely neceſſary for moderating the violence of re-action; and, if we miſtake not, is proper in every circumſtance of continued fevers, as the employment of ſtimulants is generally uncertain; and the due meaſure of the application of thoſe above mentioned is not eaſily aſcertained.

CXXXII.

A ſecond head of the means (CXXVI. 1.) of moderating the violence of re-action, comprehends certain ſedative powers, which may be employed to diminiſh the activity of the whole body, and particularly that of the ſanguiferous ſyſtem.

The firſt of theſe to be mentioned is, the application of cold. Heat is the chief ſupport of the activity of the animal ſyſtem; and the ſyſtem is, therefore, provided, in itſelf, with a power of generating heat. But, at the ſame time, we obſerve, that this would go to exceſs, were it not conſtantly moderated by a cooler temperature in the ſurrounding atmoſphere. When, therefore, the generating power of heat in the ſyſtem is increaſed, as is commonly the caſe in fevers, it is neceſſary not only to avoid all further means of increaſing it, but it ſeems proper alſo to apply air of a cooler temperature; or, at leaſt, to apply it more entirely and freely than in a ſtate of health. Some late experiments in the ſmall-pox, and in continued fevers, ſhew, that the free admiſſion of cool air to the body is a powerful remedy in moderating the violence of re-action; but what is the mode of its operation,

peration, to what circumſtances of fever it is peculiarly adapted, or what limitations it requires, we ſhall not venture to determine, till we ſhall be more particularly inſtructed by further experience.

CXXXIII.

A ſecond ſedative power which may be employed in fevers, is that of certain medicines known in the writings on the Materia Medica, under the title of REFRIGERANTS. The chief of theſe are acids of all kinds, when ſufficiently diluted, and which are, in ſeveral reſpects, remedies adapted to continued fevers. Thoſe eſpecially in uſe are, the Vitriolic and Vegetable; and, on many accounts, we prefer the latter.

CXXXIV.

Another ſet of refrigerants are, the Neutral Salts, formed of the vitriolic, nitrous, or vegetable acids, with alkalines, either fixed or volatile. All theſe neutrals, while they are diſſolved in water, generate cold; but, as that cold ceaſes ſoon after the ſolution is finiſhed, and as the ſalts are generally exhibited in a diſſolved ſtate, their refrigerant power in the animal body does not at all depend upon their power of generating cold with water. The neutral chiefly employed as a refrigerant, is Nitre; but all the others, compounded as above mentioned, partake more or leſs of the ſame quality.

CXXXV.

Beſides theſe neutrals, ſome metallic ſalts alſo have been employed as refrigerants in fevers; and particularly the Sugar of Lead. We think the refrigerant powers of this are not well aſcertained; and its deleterious qualities are too well known to admit of its being freely uſed.

CXXXVI.

The third general head (CXXVII. 3.) of the means to be employed for moderating the violence of re-action, comprehends the means of diminiſhing the tenſion, tone, and activity of the ſanguiferous ſyſtem. As the activity of this ſyſtem depends, in a great meaſure, upon the tone, and this again upon the tenſion of the veſſels, given to them by the quantity of fluids they contain, it is evident that the diminution of the quantity of theſe muſt diminiſh the activity of the ſanguiferous ſyſtem.

CXXXVII.

The quantity of fluids contained in the ſanguiferous ſyſtem may be diminiſhed moſt conveniently by the evacuations of blood-letting and purging.

CXXXVIII.

Nothing is more evident, than that blood-letting is one of the moſt powerful means of diminiſhing the activity of the whole body, and eſpecially of the ſanguiferous ſyſtem; and it muſt therefore be the moſt effectual means of moderating the violence of reaction in fevers. Taking this as a fact, we omit inquiring into its mode of operation, and ſhall only conſider in what circumſtances of fevers it is moſt properly to be employed.

CXXXIX.

When the violence of re-action, and its conſtant attendant, a phlogiſtic diatheſis, are ſufficiently evident; when theſe conſtitute the principal part of the diſeaſe, and may be expected to continue through the whole of it, as in the caſes of ſynocha; then blood-letting is the principal remedy, and may be em-

employed as far as the ſymptoms of the diſeaſe may ſeem to require, and the conſtitution of the patient will bear. It is, however, to be attended to, that a greater evacuation than is neceſſary may occaſion a ſlower recovery, may render the perſon more liable to a relapſe, or may bring on other diſeaſes.

CXL.

In the caſe of ſynocha, therefore, there is little doubt about the propriety of blood-letting; but there are other caſes of fever, as the ſynochus, in which a violent re-action and phlogiſtic diatheſis appear, and prevail during ſome part of the courſe of the diſeaſe; while, at the ſame time, theſe circumſtances do not conſtitute the principal part of the diſeaſe, nor are to be expected to continue during the whole courſe of it; and we know, that, in many caſes, the ſtate of violent re-action is to be ſucceeded, ſooner or later, by a ſtate of debility, from the exceſs of which the danger of the diſeaſe is chiefly to ariſe. It is, therefore, neceſſary, that, in many caſes, blood-letting ſhould be avoided; and even although, during the inflammatory ſtate of the diſeaſe, it may be proper, the evacuation ſhould not be ſo large as to increaſe the ſtate of debility which is to follow.

CXLI.

The employing, therefore, of blood-letting, in certain fevers, requires much diſcernment and ſkill, and is to be governed by the conſideration of the following circumſtances:

1. The nature of the prevailing epidemic.
2. The nature of the remote cauſe.
3. The ſeaſon and climate in which the diſeaſe occurs.
4. The degree of phlogiſtic diatheſis preſent.

5. The period of the diſeaſe.

6. The age, vigour, and plethoric ſtate of the patient.

7. The patient's former diſeaſes and habits of blood-letting.

8. The appearance of the blood drawn out.

9. The effects of the blood-letting that may have been already practiſed.

CXLII.

When, by the conſideration of theſe circumſtances, blood-letting is determined to be neceſſary, we muſt obſerve, that it is more effectual, as the blood is more ſuddenly drawn off, and as the body is, at the ſame time, more free from all irritation, and, therefore, when it is in a poſture in which the feweſt muſcles are in action.

CXLIII.

Another evacuation by which the quantity of fluids contained in the body can be conſiderably diminiſhed, is that of purging.

CXLIV.

If we conſider the quantity of fluids conſtantly preſent in the cavity of the inteſtines, and the quantity which may be drawn from the innumerable excretories that open into this cavity, it will be obvious that a very great evacuation can be made by purging; and, if this be done by a ſtimulus applied to the inteſtines that is not at the ſame time communicated to the reſt of the body, it may, by emptying both the cavity of the inteſtines, and the arteries which furniſh the excretions poured into it, induce a conſiderable relaxation in the whole ſyſtem; and is therefore ſuited to moderate the violence of re-action in fevers.

CXLV.

But it is to be obſerved, that, as the fluid drawn from the excretories opening into the inteſtines is not all drawn immediately from the arteries, and as what is even more immediately drawn from theſe, is drawn off ſlowly; ſo the evacuation will not, in proportion to its quantity, occaſion ſuch a ſudden depletion of the red veſſels as blood-letting does; and, therefore, cannot operate ſo powerfully in taking off the phlogiſtic diatheſis of the ſyſtem.

CXLVI.

At the ſame time, the evacuation may induce a conſiderable degree of debility; and, therefore, in thoſe caſes in which a dangerous ſtate of debility is likely to occur, purging is to be employed with a great deal of caution; and here the due meaſure is more difficult to be obſerved than in the caſe of blood-letting.

CXLVII.

As we ſhall obſerve preſently, that it is of great importance, in the cure of fevers, to reſtore the determination of the blood to the veſſels on the ſurface of the body, ſo purging, as in ſome meaſure taking off that determination, ſeems to be an evacuation not well adapted to the cure of fevers.

CXLVIII.

If, notwithſtanding theſe doubts, (CXLV. CXLVI. and CXLVII.) it ſhall be aſſerted, that purging, even from the exhibition of purgatives, has often been uſeful in fevers, I would maintain, that this has not happened from a large evacuation; and, therefore, not by moderating the violence of re-action, except in the caſe of a more purely in-

inflammatory fever. In other caſes, we have ſeen a large evacuation by purging, of miſchievous conſequence; and if, upon occaſion, a more moderate evacuation has appeared to be uſeful, we alledge that it has been, only by taking off the irritation of retained faeces, or by evacuating corrupted humours which happened to be preſent in the inteſtines: And, indeed, for both theſe purpoſes, frequent laxatives may be properly employed.

CXLIX.

Another ſet of means, (CXXVI. 2.) for moderating the violence of re-action in fevers, are thoſe ſuited to take off the ſpaſm of the extreme veſſels, which we believe to be the irritation that chiefly ſupports the re-action.

CL.

For taking off this ſpaſm of the extreme veſſels, the means to be employed are either internal or external.

CLI.

CLI.

The internal means (CL.) are,

1. Thoſe which determine the force of the circulation to the extreme veſſels on the ſurface of the body, and, by reſtoring the tone and activity of theſe veſſels, overcome the ſpaſm on their extremities.

2. Thoſe medicines which have the power of taking off ſpaſm in any part of the ſyſtem, and which are known under the title of ANTISPASMODICS.

CLII.

Thoſe remedies which are fit to determine to the ſurface of the body, are,

1. DILUENTS.
2. NEUTRAL SALTS.
3. SUDORIFICS.
4. EMETICS.

CLIII.

Water enters, in a large proportion, into the compoſition of all the animal fluids, and a large quantity of it is always diffuſed through the whole of the common maſs. In a ſound ſtate, the fluidity of the whole maſs depends upon the quantity of water preſent in it. Water, therefore, is the proper diluent of our maſs of blood, and other fluids are diluent only in proportion to the quantity of water they contain.

CLIV.

Water may be ſaid to be the vehicle of the ſeveral matters which ought to be excerned; and, in a healthy ſtate, the fullneſs of the extreme veſſels, and the quantity of excretions are in proportion to the quantity of water preſent in the body. But, in fever, though the excretions are in ſome meaſure interrupted, they continue in ſuch quantity as to exhale the more fluid parts of the blood; and, while a portion of them is, at the ſame time, neceſſarily retained in the larger veſſels; the ſmaller and the extreme veſſels, both from the deficiency of fluid, and their own contracted ſtate, are leſs filled, and therefore allowed to remain in that condition.

CLV.

To remedy this contracted ſtate, nothing is more neceſſary than a large ſupply of water, or watery fluids, taken in by drinking, or otherwiſe; for, as any ſuperfluous quantity of water is forced off by the ſeveral excretories, ſuch a force applied may be a means of dilating the extreme veſſels, and of overcoming the ſpaſm affecting their extremities.

CLVI.

Accordingly, the throwing in of a large quantity of watery fluids has been, at all times, a remedy much employed in fevers; and, in no inſtance more remarkably, than by the Spaniſh and Italian phyſicians, in the uſe of what they call the *Diaeta aquea*.

CLVII.

This practice conſiſts in taking away every other kind of aliment and drink, and in giving in divided portions every day, for ſeveral days together, ſix or eight pounds of plain water, generally cold, but ſometimes warm. All this, however, is to be done only after the diſeaſe has continued for ſome time, and, at leaſt, for a week.

CLVIII.

A ſecond means of determining to the ſurface of the body, is by the uſe of neutral ſalts. (CLII. 2.) Theſe neutrals, in a certain doſe, taken into the ſtomach, produce, ſoon after, a ſenſe of heat upon the ſurface of the body; and, if the body be covered cloſe, and kept warm, a ſweat is readily brought out. The ſame medicines taken during the cold ſtage of a fever, very often put an end to the cold ſtage, and bring on a hot one; and they are alſo remarkable for ſtopping the vomiting which ſo frequently attends the cold ſtage of fevers. All this ſhews, that neutral ſalts have a power of determining the blood to the ſurface of the body, and may, therefore, be of uſe in taking off the ſpaſm which ſubſiſts there in fevers.

CLIX.

The neutral moſt commonly employed in fevers, is that formed of an alkali, with the native acid of vegetables; but all the other neutrals have more or leſs of the ſame virtue; and perhaps ſome of them, particularly the ammoniacal ſalts, poſſeſs it in a ſtronger degree.

CLX.

As cold water taken into the ſtomach, often ſhews the ſame diaphoretic effects with the neutral ſalts, it is probable that the effect of the latter depends upon their refrigerant powers mentioned above. (CXXXIV.) What is the effect of the neutral ſalts, given when they are forming, and in a ſtate of effervеſcence?

CLXI.

A third means of determining to the ſurface of the body, and taking off the ſpaſm ſubſiſting there, is by the uſe of ſudorifics, and of ſweating. (CLII. 3.)

CLXII.

The propriety of this remedy has been much diſputed; and ſpecious arguments may be adduced both for and againſt the practice.

In favour of the practice, it may be ſaid,

1. That, in healthy perſons, in every caſe of increaſed action of the heart and arteries, a ſweating takes place, and is, ſeemingly, the means of preventing the bad effects of ſuch increaſed action.

2. That, in fevers, their moſt uſual ſolution and termination is by ſpontaneous ſweating.

3. That, even when excited by art, it has been found manifeſtly uſeful, at certain periods, and in certain ſpecies of fever.

CLXIII.

Upon the other hand, it may be urged againſt the practice of ſweating,

1. That in fevers, as a ſpontaneous ſweating does not immediately come on, there are ſome circumſtances different from thoſe in the ſtate of health, and which may render it doubtful whether the ſweating can be ſafely excited by art.

2. That, in many caſes, the practice has been attended with bad conſequences. The

means commonly employed have a tendency to produce an inflammatory diatheſis; which, if not taken off by the ſweat ſucceeding, muſt be increaſed with much danger. Thus ſweating, employed to prevent the acceſſions of intermitting fevers, has often changed them into a continued form, which is always dangerous.

3. The utility of the practice is doubtful, as ſweating, when it happens, does not always give a final determination, as muſt be manifeſt in the caſe of intermittents, and in many continued fevers, which are ſometimes, in the beginning, attended with ſweatings which do not prove final; and, on the contrary, whether they be ſpontaneous or excited by art, ſeem often to aggravate the diſeaſe.

CLXIV.

From theſe conſiderations, it is very doubtful, if the practice of ſweating can be admitted very generally; but, at the ſame time, it is alſo doubtful, if the failure of the practice, or the miſchiefs ſaid to have ariſen from it, have not been owing to the improper conduct of the practitioner.

With reſpect to the laſt, it is almoſt agreed among phyſicians,

1. That ſweating has been generally hurtful, when excited by ſtimulant, heating, and inflammatory medicines.

2. That it has been hurtful, when excited by much external heat, and continued with a great increaſe of the heat of the body.

3. That it is always hurtful, when it does not ſoon relieve, and rather increaſes the frequency and hardneſs of the pulſe, the anxiety and difficulty of breathing, the headach, and delirium.

4. That it is always hurtful, if it is urged, when the ſweat is not fluid, and when it is partial, and on the ſuperior parts of the body only.

CLXV.

In theſe caſes, it is probable, that either an inflammatory diatheſis is produced, which increaſes the ſpaſm on the extreme veſſels, or that, from other cauſes, the ſpaſm is too much fixed to yield eaſily to the increaſed action of the heart and arteries; and, upon either ſuppoſition, it muſt be obvious, that urging the ſweat may produce determinations to ſome of the internal parts, with very great danger.

CLXVI.

Though the doubts ſtarted (CLXIII.) are to be attended to; and though the practices (CLXIV.) have been found hurtful, and are therefore to be rejected, it ſtill remains true,

1. That ſweating has certainly been often uſeful in preventing the acceſſion of fevers, when the times of it have been certainly foreſeen, and a proper conduct employed.

2. That, even after fevers have in ſome meaſure come on, ſweating has interrupted their progreſs, when properly employed, either at the very beginning of the diſeaſe, or during its approach and gradual formation.

3. That, even after pyrexiae have continued for ſome time, ſweating has been ſucceſsfully employed in curing them, as particularly in the caſe of rheumatiſm.

4. That certain fevers, produced by a very powerfully ſedative contagion, have been generally treated moſt ſucceſsfully by ſweating.

CLXVII.

Theſe inſtances (CLXVI.) are in favour of ſweating, but give no general rule; and it muſt be left to further experience to determine, how far any general rule can be eſtabliſhed in this matter. In the mean time, if the practice of ſweating is to be attempted, we can venture to lay down the following rules for the conduct of it.

1. That it ſhould be excited without the uſe of ſtimulant, inflammatory medicines.

2. That it ſhould be excited with as little external heat, and with as little increaſe of the heat of the body as poſſible.

3. That, when excited, it ſhould be continued for a due length of time, not leſs than twelve hours, and ſometimes for twenty-four or forty-eight hours; always, however, providing that it proceeds without the circumſtances. (CLXIV. 3. 4.)

4. That, for ſome part of the time, and as long as the perſon can eaſily bear, it ſhould be carried on without admitting of ſleep.

5. That it ſhould be rendered univerſal over the whole body; and, therefore, particularly, that care be taken to bring the ſweating to the lower extremities.

6. That the practice ſhould be rendered ſafer by moderate purging, excited at the ſame time.

7. That it ſhould not be ſuddenly checked by cold any how applied to the body.

CLXVIII.

When attention is to be given to theſe rules, the ſweating may be excited, 1. By warm bathing, or a fomentation of the lower extremities. 2. By frequent draughts of tepid liquors, chiefly water, rendered more grateful by the addition of a light aromatic, or more powerful, by that of a ſmall quantity of wine. 3. By giving ſome doſes of neutral ſalts. 4. Moſt effectually, and perhaps moſt ſafely, by a large doſe of an opiate, joined with a portion of neutral ſalts, and of an emetic.

CLXIX.

The fourth mean of determining to the ſurface of the body, and thereby taking off the ſpaſm affecting the extreme veſſels, (CLII. 4.) is by the uſe of emetics.

CLXX.

Emetics, and particularly antimonial emetics, have been employed in the cure of fevers, ever ſince the introduction of chemical medicines; but, for a long time, they were employed by chemiſts and chemical practitioners only; and, although of late their uſe has become very general, their efficacy is ſtill diſputed, and their manner of operating is not commonly explained.

CLXXI.

Vomiting is, in many reſpects, uſeful in fevers; as it evacuates the contents of the ſtomach; as it emulges the biliary and pancreatic ducts; as it evacuates the contents of the duodenum, and perhaps alſo of a larger portion of the inteſtines; as it agitates the whole of the abdominal viſcera, expedes the circulation in them, and promotes their ſeveral ſecretions; and, laſtly as agitating alſo the viſcera of the thorax, it has like effects there. All theſe ſeveral effects are procured with advantage, in many caſes and circumſtances of fever, but do not properly fall under our view here, where we are to conſider only the effect of vomiting in determining to the ſurface of the body.

CLXXII.

This effect we do not impute to the exercife of vomiting in agitating the whole body, but to the particular operation of emetics upon the muſcular fibres of the ſtomach, whereby they excite the action of the extreme arteries on the ſurface of the body, and thereby effectually determine the blood to theſe veſſels, remove the atony, and take off the ſpaſm affecting them.

CLXXIII.

That ſuch is the power of emetics, will appear from the ſeveral conſiderations mentioned above (XLIII.); and, therefore, that they are remedies well ſuited to the cure of fevers.

CLXXIV.

Emetics, for that purpoſe, are adminiſtered in two different ways; that is, either in ſuch doſes as may excite full and repeated vomitings, or in ſuch doſes as may excite ſickneſs and nauſea only, with little or no vomiting at all.

CLXXV.

Full vomiting is beſt ſuited to the ſeveral purpoſes mentioned (CLXXI.); and is alſo well ſuited to determine to the ſurface of the body, and thereby to obviate the atony and ſpaſm which lay the foundation of fever. Thus, vomiting excited a little before the expected acceſſion of the paroxyſm of an intermittent, has been found to prevent the paroxyſm altogether. It has been obſerved alſo, that, when contagion has been applied to a perſon, and firſt diſcovers its operation, a vomit given will prevent the fever, which otherwiſe was to have been expected.

CLXXVI.

Theſe are advantages to be obtained by exciting vomiting at the firſt approach of fevers, or of the paroxyſms of fevers; and they may alſo be applied after fevers are formed, to take off, perhaps entirely, the atony and ſpaſm, or, at leaſt, to moderate theſe, ſo that the fever may proceed more gently and ſafely.

CLXXVII.

It is ſeldom, however, that vomiting is found to produce a final ſolution of fevers; and, after they are once formed, it is commonly neceſſary to repeat the vomiting ſeveral times; but this is attended with inconveniency, and ſometimes with diſadvantage. The operation of full vomiting is tranſitory, and the exerciſe of vomiting is often a debilitating power; and, therefore, when the vomiting does not remove the atony and ſpaſm very entirely, it may give occaſion to their recurrence with greater force.

CLXXVIII.

For theſe reaſons, after fevers are fully formed, phyſicians have thought proper to employ emetics in nauſeating doſes only. Theſe are capable of exciting the action of the extreme veſſels, and their operation is more permanent. At the ſame time, they often ſhew their power by exciting ſome degree of ſweat; and their operation is rendered more ſafe, by their commonly producing ſome evacuation by ſtool.

CLXXIX.

Theſe are the advantages to be procured by nauſeating doſes of emetics; and it only remains to mention, what are the medicines moſt fit to be employed; what are the moſt proper times for exhibiting, and what the beſt manner of adminiſtering them.

CLXXX.

The emetics chiefly in uſe at preſent are, Ipecacuanha and Antimony. The firſt may be employed for every purpoſe of emetics, particularly thoſe mentioned (CLXXI.); and alſo, either in larger or ſmaller doſes, for determining to the ſurface of the body; but, even in very ſmall doſes, it ſo readily excites vomiting, as to be, with difficulty, employed for the purpoſe of nauſeating only; and, however employed, there is reaſon to ſuſpect, that its effects are leſs permanent, and leſs powerfully communicated from the ſtomach to the reſt of the ſyſtem, than thoſe of Antimony.

CLXXXI.

This laſt, therefore, is generally preferred; and its preparations, ſeemingly various, may all be referred to two heads; one comprehending thoſe in which the reguline part is in a condition to be acted upon by acids; and, therefore, on meeting with acids in the ſtomach, becomes active; and another, comprehending thoſe preparations in which the reguline part is already joined with an acid, rendering it active.

CLXXXII.

Of each kind there are great numbers, but not differing eſſentially from one another. It will be enough for us to compare the Calx Antimonii nitrata of the Edinburgh

Diſpenſatory, with the Emetic Tartar of the ſame. Which of theſe is beſt ſuited to the cure of fevers, as above explained, ſeems doubtful; but it appears to me, that, though the firſt may have ſome advantages from its ſlower operation, and may thereby ſeem to be more certainly ſudorific and purgative; the uncertainty of its doſe renders it inconvenient, and has often given occaſion to the timid to be diſappointed, and to the bold to do miſchief. While, on the other hand, the doſe of the Emetic Tartar can be exactly aſcertained; and we think it may be exhibited in ſuch a manner as to produce all the advantages of the other.

CLXXXIII.

Whichſoever of theſe preparations be employed, we think the moſt proper time for exhibiting them, is the time of acceſſions, or a little before it, when that can be certainly known. In continued fevers, the exacerbations are not always very obſervable; but there is reaſon to believe, that one commonly happens about noon, or ſoon after it, and another in the evening; and that theſe, therefore, are the moſt proper times for exhibiting emetics.

CLXXXIV.

With reſpect to the manner of adminiſtration, that of the Calx Nitrata is ſimple, as the whole of what is thought a proper doſe is given at once, and no more can be properly given till the next acceſſion. The adminiſtration of the Emetic Tartar is different. It is to be given in ſmall doſes, not ſufficient to excite vomiting; and theſe doſes are to be repeated after ſhort intervals, for ſeveral times, till ſickneſs, nauſea, and ſome, but not much, vomiting, come on. The difference of adminiſtration muſt depend upon the doſe, and the length of the intervals at which it is given. If it be intended that the medicine ſhould certainly operate by ſtool, the doſes are made ſmall, and the intervals long. On the contrary, when vomiting is proper, or when much purging ought to be avoided, and, therefore, ſome vomiting muſt be admitted, the doſes are made larger, and the intervals ſhorter.

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CLXXXV.

With reſpect to both kinds of preparations, the repetition is to be made at the times of acceſſion, but not very often; for, if the firſt exhibitions, duly managed, have little effect, it is ſeldom that the after exhibitions have much; and it ſometimes happens, that the repeated vomiting, and eſpecially repeated purgings, does harm, by weakening the patient.

CLXXXVI.

The other ſet of internal medicines, which we ſuppoſe may be uſeful in taking off the ſpaſm of the extreme veſſels, are thoſe named Antiſpaſmodic. How many of theſe may be properly employed, I am uncertain, and their mode of operation is involved in great obſcurity. It is certain, however, that opium, camphor, muſk, and perhaps ſome others, have been employed in fevers with advantage; but, the circumſtances in which they are eſpecially proper and ſafe, I find it difficult to aſcertain; and, therefore, cannot venture here to lay down any general doctrine concerning them.

CLXXXVII.

The external means (CL.) ſuited to take off the ſpaſm of the extreme veſſels, are BLISTERING and WARM BATHING.

CLXXXVIII.

What are the effects of bliſtering, ſo frequently employed in fevers, is not yet agreed upon among phyſicians; and many different opinions have been maintained on this ſubject, drawn not only from reaſoning, but alſo from preſumed experience. We muſt not, however, enter into controverſy; but ſhall deliver our own opinion in a few words.

CLXXXIX.

I think, that the ſmall quantity of cantharides abſorbed from a bliſtering plaſter, is not ſufficient to change the conſiſtence of the maſs of blood; and, therefore, that ſuch a quantity can neither do good, by reſolving phlogiſtic lentor, if it exiſts, nor do harm, by increaſing the diſſolution of the blood ariſing from a putrid tendency in it. We therefore neglect, entirely, the effects of cantharides upon the fluids.

CXC.

The inflammation produced by the application of cantharides to the ſkin, affords a certain proof of their ſtimulant power; but, in many perſons, the effect of that ſtimulus is not conſiderable; in many it is not communicated to the whole ſyſtem; and, even when it does take place in the whole ſyſtem, it ſeems to be taken off, very entirely, by the effuſion and evacuation of ſerum from the bliſtered part. I think, therefore, that neither much good is to be expected, nor much harm to be apprehended, from the ſtimulant power of bliſtering; and the certainty of this concluſion is eſtabliſhed, by the great benefit ariſing from the proper practice of bliſtering in inflammatory diſeaſes.

CXCI.

Much has been imputed to the evacuation made by bliſtering; but it is never ſo conſiderable as to affect the whole ſyſtem; and therefore can, neither by a ſudden depletion, relax the ſanguiferous ſyſtem, nor, by any revulſion, affect the general diſtribution of the fluids.

CXCII.

The evacuation, however, is ſo conſiderable as to affect the neighbouring veſſels; and the manifeſt utility of bliſtering near the part affected, in inflammatory diſeaſes, leads us to think, that bliſtering, by deriving to the ſkin, and producing an effuſion there, relaxes the ſpaſm of the deeper ſeated veſſels. It is in this manner we ſuppoſe that the tumour of a joint, from an effuſion into the cellular texture under the ſkin, takes off the rheumatic pain affecting that joint.

CXCIII.

Analogous to this, we think the good effect of bliſtering in continued fevers, ariſes from its relaxing the ſpaſm of the extreme veſſels, by a communication of the bliſtered part with the reſt of the ſkin; and this is illuſtrated by the effect of bliſtering in colic and dyſentery.

CXCIV.

We think, that bliſtering may be employed at any period of continued fevers; but that it will be of moſt advantage in the advanced ſtate of ſuch fevers, when, the reaction being weaker, all ambiguity from the ſtimulant power of bliſtering is removed, and when it may beſt concur with other circumſtances tending to a final ſolution of the ſpaſm.

CXCV.

From the view of this matter, given in (CXCI. CXCII.) it will appear, that the part of the body to which bliſters ought to be applied, is indifferent, except upon the ſuſpicion of topical affection, when the bliſtering is to be made as near as poſſible to the part affected.

CXCVI.

Whether SINAPISMS, and other RUBEFACIENTIA, act in a manner analogous to what we have ſuppoſed of bliſtering, may be doubtful; but their effects in rheumatiſm and other inflammatory diſeaſes, render it probable.

CXCVII.

The other external mean of taking off the ſpaſm of the extreme veſſels, is Warm Bathing. This was frequently, and in different circumſtances, employed by the antients; but has, till very lately, been neglected by modern phyſicians. As the heat of the bath ſtimulates the extreme veſſels, and, with the concurrence of moiſture, alſo relaxes them, it ſeems to be a ſafe ſtimulus, and well ſuited to take off the ſpaſm affecting theſe veſſels.

CXCVIII.

It may be applied to the whole body, by immerſion; but this is, in many reſpects, inconvenient; and, whether ſome of the inconveniences of immerſion might not be avoided by a vapour-bath, we have not learned from experience; but we know, from much experience, that moſt of the purpoſes of warm bathing can be obtained, by a fomentation of the legs and feet, if properly adminiſtered, and continued for a due length of time, not leſs than an hour.

CXCIX.

The marks of the good effects of ſuch a fomentation, are, the patient's bearing it eaſily, its relieving delirium, and inducing ſleep.

CC.

We have now conſidered the ſeveral means of ſatisfying the firſt general indication in the cure of fevers, and proceed to the ſecond, (CXXV. 2.) which is *to remove the cauſe, or obviate the effects of debility.*

CCI.

Moſt of the ſedative powers inducing debility, ſoon after they have been firſt applied, ceaſe to act; and, therefore, the removing them is not an object of our preſent indication. There is only one which may be ſuppoſed to continue to act for a long time, and that is, the contagion applied; but we know nothing of the nature of contagion that can lead us to any meaſures for removing or correcting it. We know only its effects as a ſedative power inducing debility, or as a ferment inducing a tendency to putrefaction in the fluids. The obviating the latter will be conſidered under our third general indication, and the former only is to be conſidered here.

CCII.

The debility induced in fevers by contagion, or other cauſes, appears, eſpecially in the weaker energy of the brain; but in what this conſiſts, or how it may be directly reſtored, we do not well know; but, as Nature, ſeemingly for this purpoſe, excites the action of the heart and arteries, we aſcribe the continuance of debility to the weaker re-action of the ſanguiferous ſyſtem; and the means, therefore, which we employ for obviating debility, are immediately directed to ſupport and increaſe the action of the heart and arteries; and the remedies employed are TONICS or STIMULANTS.

CCIII.

In contagious diſeaſes, we know, both from the effects which appear, and from diſſections, that the tone of the heart and arteries is conſiderably diminiſhed; and that tonic remedies, therefore, are properly indicated. We are to conſider them as of two kinds; the firſt being the power of cold, the ſecond that of tonic medicines.

CCIV.

The power of cold, as a tonic, we have mentioned above (LXXXIX.); and it is employed, in fevers, in two ways; either as the cold matter is thrown into the ſtomach, or is applied to the ſurface of the body.

CCV.

As we have ſaid above, that the tonic power of cold can be communicated from any one part to every other part of the ſyſtem, ſo it will be readily allowed, that the ſtomach is a part as fit for this communication as any other; and that cold drink, therefore, taken into the ſtomach, may prove an uſeful tonic in fevers.

CCVI.

This, the experience of all ages has confirmed; but, at the ſame time, it has been frequently obſerved, that, in certain circumſtances, cold drink, taken into the ſtomach, has proved very hurtful; and, therefore, that the uſe of cold drink in fevers requires ſome limitations. What theſe limitations ſhould be, and what are all the circumſtances which may forbid the uſe of cold drink, is difficult to determine; but it ſeems clearly forbidden, in all caſes where a phlogiſtic diatheſis prevails in the ſyſtem, and more eſpecially when there are topical affections of an inflammatory nature.

CCVII.

The other method of employing cold as a tonic, is, by applying it to the ſurface of the body. The application of cold air to the ſurface of the body, as a refrigerant power fit to moderate the violence of reaction, we have ſpoken of above (CXXXII.); but probably it may here be conſidered alſo properly as a tonic, and uſeful in caſes of debility.

CCVIII.

Not only cool air, but cold water alſo, may be applied to the ſurface of the body, as a tonic. The antients frequently applied it with advantage, to particular parts, as a tonic; but it is a diſcovery of modern times, that, in the caſe of putrid fevers, attended with much debility, the body may be waſhed all over with cold water.

CCIX.

CCIX.

This was firſt practiſed at Breſlaw in Sileſia, as appears from a diſſertation, under the title of *Epidemia verna quae Wratiſlaviam, anno* 1737, *afflixit*, to be found in the appendix to the *Acta nat. curioſ.* vol. X. And from other writers it appears, that the practice has paſſed into ſome of the neighbouring countries; but in this iſland, ſo far as I know, we have as yet had no experience of it.

CCX.

The medicines which have been employed in fevers as tonics, are various. If the Saccharum Saturni has been found uſeful, it is, probably, as a tonic, rather than as a refrigerant; and the Ens Veneris, or other preparations of iron which have been employed, can act as tonics only. The preparations of copper, from their effects in epilepſy, are preſumed to poſſeſs a tonic power; but, whether their uſe in fevers be founded upon their tonic or their emetic powers, may be uncertain. The uſe of arſenic and of alum, in intermittent fevers, ſeems manifeſtly to depend upon their tonic power. And, upon the whole, there may occur caſes of continued fevers, which may be cured by tonics taken from the foſſil kingdom; but the uſe of theſe has been rare, and the effects uncertain, and phyſicians have employed, more commonly, the vegetable tonics.

CCXI.

A great variety of theſe has been employed in the cure of intermittent fevers; but how many of them may be employed in continued fevers, or in what circumſtances of theſe fevers, is not well aſcertained; and we ſhall now only conſider the queſtion with reſpect to the moſt celebrated of theſe tonics, the Peruvian bark.

CCXII.

This bark has been commonly conſidered as a ſpecific, or as a remedy of which the operation was not underſtood. But it is certainly allowable to inquire into this matter; and we think it may be explained.

CCXIII.

To this purpoſe we obſerve, that, as in many caſes, the effects of the bark are perceived ſoon after its being taken into the ſtomach, and before it can poſſibly be conveyed to the maſs of blood, we may conclude, that its effects do not ariſe from its operating on the fluids; and muſt, therefore, depend upon its operating on the nerves of the ſtomach, and being thereby communicated to the reſt of the nervous ſyſtem. This operation ſeems to be a tonic power, the bark being a remedy in many caſes of debility, particularly in gangrene; and, as the recurrence of the paroxyſms of intermittent fevers depends upon a recurrence of atony, (XXXIV. *et ſeq.*); ſo probably the bark, by its tonic power, prevents the recurrence of theſe paroxyſms; and this is greatly confirmed by our obſerving, that many other tonic medicines anſwer the ſame purpoſe.

CCXIV.

If the operation of the bark may be thus explained, from its poſſeſſing a tonic power, we can eaſily perceive why it is improper when a phlogiſtic diatheſis prevails; and, from the ſame view, we can aſcertain in what caſes of continued fever it may be admitted. Theſe caſes are either after conſiderable remiſſions have appeared, when it may be employed to prevent the return of exacerbations,

tions, on the ſame footing as it is uſed in intermittent fevers; or in the advanced ſtate of fevers, when all ſuſpicion of an inflammatory ſtate is removed, and a general debility prevails in the ſyſtem; and its being then employed is ſufficiently agreeable to the preſent practice.

CCXV.

With reſpect to the uſe of the bark, we think proper to add, that good effects are to be expected from it, almoſt only when given in ſubſtance, and in large quantity.

CCXVI.

Another ſet of medicines to be employed for obviating debility and its effects, are the direct ſtimulants (CCII.). Theſe, in ſome meaſure, increaſe the tone of the moving fibres; but are different from the tonics, as they more directly excite and increaſe the action of the heart and arteries. This mode of their operation renders their uſe ambiguous; and when an inflammatory diatheſis is preſent, as ſo often happens in the beginning of fevers, the effects of theſe ſtimulants may be very hurtful; but it ſtill remains probable, that, in the advanced ſtate of fevers, when debility prevails, they may be uſeful.

CCXVII.

What are the ſtimulants which may be moſt properly employed, we are uncertain, as the uſe of them, in this age, has been rare; but we are diſpoſed to think that, of all kinds, wine is the beſt.

CCXVIII.

Wine has the advantage of being grateful to the palate and ſtomach, and of having its ſtimulant parts ſo much diluted, that it can be conveniently given in ſmall doſes; and therefore it may be employed with ſufficient caution; but it is of little ſervice, unleſs taken pretty largely.

CCXIX.

It may be ſuſpected, that wine has an operation analogous to that of opium; and on good grounds. But we can diſtinctly mark its ſtimulant power only, which renders its effects in the phrenitic delirium manifeſtly hurtful, and, in the mild delirium, depending on debility, as remarkably uſeful.

CCXX.

Theſe are the means of anſwering our ſecond general indication (CXXV. 2.); and we now proceed to the third, which is *to obviate or to correct the tendency of the fluids to putrefaction.*

CCXXI.

This may be done,

1. By avoiding any new application of putrid or putreſcent matter.

2. By evacuating the putrid or putreſcent matter already preſent in the body.

3. By correcting the putrid or putreſcent matter remaining in the body.

4. By ſupporting the tone of the veſſels, and thereby reſiſting further putrefaction, or obviating its effects.

5. By moderating the violence of reaction, conſidered as a means of increaſing putrefaction.

CCXXII.

The further application of putrid or putreſcent matter may be avoided,

1. By removing the patient from places filled with corrupted air.

2. By preventing the accumulation of the patient's own effluvia, by a conſtant ventilation, and by a frequent change of bed-cloaths and body-linen.

3. By the careful and ſpeedy removal of all excremental matters from the patient's chamber.

4. By avoiding animal food.

CCXXIII.

The putrid or putreſcent matter, already preſent in the body, may be evacuated, partly, by frequently evacuating the contents of the inteſtines, and more effectually, ſtill, by ſupporting the excretions of perſpiration and urine, by the plentiful uſe of diluents.

CCXXIV.

The putrid or putreſcent matter, remaining in the body, may be rendered more mild and innocent, by the uſe of diluents; or may be corrected by the uſe of antiſeptics. Theſe laſt are of many and various kinds; but, which of them are conveniently applicable or more particularly ſuited to the caſe of fevers, is not well aſcertained. Thoſe moſt certainly applicable and uſeful, are, aceſcent aliments, acids of all kinds, neutral ſalts, and fixed air.

CCXXV.

The progreſs of putrefaction may be conſiderably retarded, and its effects obviated, by ſupporting the tone of the veſſels; and this may be done by tonic remedies; the chief of which are, Cold, and Peruvian bark, both ſufficiently treated of above. (CCXIV. —CCXV.)

CCXXVI.

The violence of re-action increaſing the tendency to putrefaction, may be moderated by the ſeveral means fully treated of above. (CXXVI.—CXXX.)

CCXXVII.

We have now finiſhed the conſideration of the three general indications to be formed in the cure of continued fevers, and have mentioned moſt of the remedies which have been, upon any occaſion, employed. It was neceſſary, in the firſt place, to conſider theſe remedies ſeparately, and to explain their operation more generally; but, from what we have now delivered, compared with what has been ſaid above, concerning the difference of fevers, and the ſignification of their ſeveral ſymptoms in forming the prognoſtic, I expect it will not be difficult to ſelect and combine the ſeveral remedies mentioned, ſo as to adapt them to the ſeveral ſpecies and circumſtances of continued fevers.

We think it may be uſeful for Students to have the whole of the Cure of CONTINUED FEVERS brought under one View, as in the following TABLE.

In the Cure of CONTINUED FEVERS,
The INDICATIONS are,

I. *To moderate the violence of reaction,*

Which may be done, by

- 1. Diminiſhing the action of the heart and arteries, by
  - A. Avoiding or moderating thoſe irritations which are almoſt conſtantly applied to the body, as,
    - a. The impreſſions made upon our ſenſes, particularly,
      - α. Increaſed heat, whether ariſing from
        - αα. External heat, or,
        - ββ. The accumulation of the heat of the body.
    - b. The exerciſe of the body,
    - c. The exerciſe of the mind,
    - d. The taking in of aliment.
    - e. Particular irritations ariſing from
      - α. The ſenſe of thirſt,
      - β. Crudities, or corrupted humours in the ſtomach,

- γ. The preternatural retention of faeces.
- δ. A general acrimony of the fluids.

B. Employing certain ſedative powers, as
- a. Cold.
- b. Refrigerants, the chief of which are,
  - α. Acids of all kinds,
  - β. Neutral ſalts,
  - γ. Metallic ſalts.

C. Diminiſhing the tenſion and tone of the arterial ſyſtem, by
- a. Blood-letting,
- b. Purging.

2. Taking off the ſpaſm of the extreme veſſels, by

A. Internal means, which are
- a. Thoſe remedies which determine to the ſurface, as,
  - α. Diluents.
  - β. Neutral ſalts,
  - γ. Sudorifics,
  - δ. Emetics.
- b. Thoſe remedies named antiſpaſmodics.

B. External means, as,
- a. Bliſtering,
- b. Warm bathing.

II. *To remove the cauſes, or obviate the effects of debility*, by

1. Supporting and increaſing the action of the heart and arteries, by

A. Tonics, as,
  a. Cold,
  b. Tonic medicines, which are either
    α. Foſſil, as,
      αα. Saccharum ſaturni, &c. or,
    β. Vegetable, as,
      αα. Peruvian bark.
B. Stimulants, as,
  a. Aromatics, &c.
  b. Wine.

III. *To obviate or correct the tendency of the fluids to putrefaction*, by

1. Avoiding the application of putrid or putreſcent matter, by
  A. Removing the patient from places filled with corrupted air,
  B. Avoiding the accumulation of the patient's own effluvia, by
    a. A conſtant ventilation.
    b. Frequently changing the bed-clothes and body linen.
  C. Removing carefully and ſpeedily all excremental matters,
  D. Avoiding animal food.
2. Evacuating the putrid or putreſcent matter already preſent in the body, by
  A. Evacuating frequently the inteſtines.

B. Supporting the excretions of perſpiration and urine, by
  a. Diluents,
  b. Neutral ſalts.
3. Correcting the putrid or putreſcent matter remaining in the body, by
A. Diluents,
B. Antiſeptics.
4. Reſiſting farther putrefaction, or obviating its effects, by
  Supporting the tone of the veſſels, by
    Tonic remedies.
5. Moderating the violence of reaction, conſidered as a means of increaſing putrefaction. as in I, A. B. C.

SECT. II.

OF THE CURE of INTERMITTENT FEVERS.

CCXXVIII.

It ſtill remains to conſider the cure of intermittent fevers; and, with reſpect to theſe, we form alſo three general indications.

1. *In the time of intermiſſion, to prevent the recurrence of paroxyſms.*

2. *In the time of paroxyſms, to conduct theſe ſo as to obtain a final ſolution of the diſeaſe.*

3. *To take off certain circumſtances which might prevent the fulfilling of the two firſt indications.*

CCXXIX.

The firſt indication may be anſwered in two ways;

1. By increaſing the action of the heart and arteries ſome time before the period of acceſſion, and ſupporting that increaſed action till the period of the acceſſion be over, and thus to prevent the recurrence of the atony and ſpaſm of the extreme veſſels which give occaſion to the recurrence of paroxyſms.

2. Without increaſing the action of the heart and arteries, the recurrence of paroxyſms may be prevented, by ſupporting the tone of the veſſels, and thereby preventing atony, and the conſequent ſpaſm.

CCXXX.

Forthe purpoſe mentioned in (CCXXIX. 1.) the action of the heart and arteries may be increaſed;

1. By various ſtimulant remedies, internally given, or externally applied, and that without exciting ſweat.

2. By the ſame remedies, or others ſo managed as to excite ſweating, and to ſupport that ſweating till the period of acceſſion be for ſome time paſt.

3. By emetics, for the ſame time, ſupporting and increaſing the tone and action of the extreme veſſels.

CCXXXI.

The tone of the extreme veſſels may be ſupported without increaſing the action of the heart and arteries, (CCXIX. 2.) by various tonic medicines, as,

1. Aſtringents alone.
2. Bitters alone.
3. Aſtringents and bitters conjoined.
4. Aſtringents and aromatics conjoined.
5. Certain metallic tonics; and,

Laſtly, Opiates.

A good deal of exerciſe, and as a full diet as the condition of the patient's appetite and digeſtion may allow of, will be proper during the time of intermiſſion, and may be conſidered as belonging to this head.

CCXXXII.

Of all the tonic remedies mentioned, (CCXXXI.) the moſt celebrated, and perhaps the moſt certainly effectual, is the Peruvian bark, the tonic power of which we have endeavoured to demonſtrate above, (CCXIII.) and have, at the ſame time, explained its uſe in continued fevers. In intermittents, the ſame obſervation, as made in (CCXV.) is more eſpecially proper; and theſe further obſervations or rules may be offered here:

1. That the bark may be employed with ſafety at any period of intermittent fevers, providing that, at the ſame time, there be neither a phlogiſtic diatheſis prevailing in the ſyſtem, nor any conſiderable or fixed congeſtion preſent in the abdominal viſcera.

2. The proper time for exhibiting the bark in intermittent fevers, is during the time of intermiſſion; and it is to be abſtained from in the time of paroxyſms.

2. In remittents, though no entire apyrexia occurs, the bark may be given during the remiſſions; and it ſhould be given, even though the remiſſions be inconſiderable, if, from the known nature of the epidemic, intermiſſions or conſiderable remiſſions are not to be ſoon expected, and that great danger is apprehended from repeated exacerbations.

4. In the caſe of genuine intermittents, while a due quantity of bark is to be employed, the exhibition of it ought to be brought as near to the time of acceſſion as the condition of the patient's ſtomach will allow.

5. In all caſes of intermittents, it is not ſufficient that the recurrence of paroxyſms be ſtopped for once by the uſe of the bark; a relapſe is commonly to be expected, and

ſhould be prevented by the exhibition of the bark, repeated at proper intervals.

CCXXXIII.

Our ſecond indication for conducting the paroxyſms of intermittent fevers, ſo as to obtain a final ſolution of the diſeaſe, may be anſwered,

1. By exhibiting emetics during the time of the cold ſtage, or at the beginning of the hot.

2. By opiates given during the time of the hot ſtage.

CCXXXIV.

The circumſtances which may eſpecially prevent the fulfilling of thoſe two indications, and therefore give occaſion to our third, are, a phlogiſtic diatheſis prevailing in the ſyſtem, and congeſtions fixed in the abdominal viſcera. The firſt muſt be removed by blood-letting and the antiphlogiſtic regimen ; the ſecond, by vomiting and purging.

BOOK II.

OF INFLAMMATIONS, OR PHLEGMASIÆ.

CHAP. I.

OF INFLAMMATION IN GENERAL.

SECT. I.

OF THE PHENOMENA OF INFLAMMATION.

CCXXXV.

WHEN any part upon the ſurface of the body is affected with unuſual redneſs, heat, pain, and tumour, we name the diſeaſe an Inflammation or Phlegmaſia. Theſe ſymptoms of inflammation are never conſiderable, without the whole ſyſtem being, at the ſame time, affected with pyrexia.

[illegible]

CCXXXVI.

As the external, ſo likewiſe the internal parts may be affected with inflammation; and we judge them to be ſo, when, together with pyrexia, there is a fixed pain in any internal part, attended with ſome interruption in the exerciſe of its functions.

CCXXXVII.

We judge of the preſence of inflammation alſo from the ſtate of the blood drawn out of the veins. When the blood, after cooling and concreting, ſhews a portion of the gluten ſeparated from the reſt of the maſs, and lying on the ſurface of the craſſamentum;

mentum; as ſuch ſeparation happens in all caſes of more evident phlegmaſia; ſo, in ambiguous caſes, we, from this appearance, joined with other ſymptoms, conclude the preſence of inflammation. At the ſame time, it muſt be obſerved, that, as ſeveral circumſtances in blood-letting may prevent this ſeparation of gluten from taking place in blood otherwiſe diſpoſed to it; ſo we cannot always conclude, from the want of ſuch appearance, againſt the preſence of inflammation.

CCXXXVIII.

We cannot eaſily give any other general hiſtory of the phenomena of inflammation than what is contained in the three preceeding paragraphs; and the variations which may take place in its circumſtances, will occur to be more properly taken notice of under the ſeveral heads of the particular genera and ſpecies, to be hereafter mentioned.

We proceed, therefore, to inquire into the proximate cauſe of inflammation in general.

SECT. II.

OF THE PROXIMATE CAUSE OF INFLAMMATION.

CCXXXIX.

The phenomena of inflammation (CCXXXV.), all concur in ſhewing, that there is an increaſed impetus of the blood in the veſſels of the part affected; and as, at the ſame time, the action of the heart is not always conſiderably increaſed, we preſume, that the increaſed impetus of the blood in the particular part, is owing eſpecially to the increaſed action of the veſſels of the part itſelf.

CCXL.

The cauſe of this increaſed action in the veſſels of a particular part is, therefore, what we are to inquire after, and to conſider as the proximate cauſe of inflammation. In many caſes, we can manifeſtly perceive, that inflammation ariſes from the application of ſtimulant ſubſtances to the part. When the application of ſuch ſtimulants, therefore, is evident, we ſeek for no other cauſe of inflammation; but as, in many caſes, ſuch application is neither evident, nor, with any probability, to be ſuppoſed, we muſt, in ſuch caſes, ſeek for ſome other cauſe of the increaſed impetus of the blood in the veſſels of the part.

CCXLI.

Many phyſicians have ſuppoſed, that an obſtruction of the extreme veſſels, any how produced, may prove a cauſe of inflammation:

tion: But many difficulties attend this doctrine.

1. The ſuppoſition of an ERROR LOCI is not at all probable; for the motion of the blood in the extreme veſſels is ſo weak and ſlow, as readily to admit a retrograde courſe of it; and, therefore, if a particle of blood ſhould happen to enter a veſſel whoſe branches will not allow of its paſſage, it will be moved backwards till it meet with a veſſel fit for tranſmitting it; and the frequent ramifications and anaſtomoſes of the extreme arteries are very favourable to this.

2. The ſuppoſition of a preternatural lentor, or viſcidity of the blood, is not well founded; for it is probable, that nature has ſpecially provided againſt a ſtate of the fluids, ſo incompatible with the exerciſe of the moſt important functions of the animal oeconomy. While motion continues to prevent any ſeparation of parts, and heat continues to preſerve the fluidity of the more

viſcid, there ſeems to be always ſo large a proportion of water preſent, as to give a ſufficient fluidity to the whole.

3. We preſume that no general lentor does ever take place; becauſe, if it did, it muſt ſhew more conſiderable effects than commonly appear.

4. There are no experiments directly in proof of a preternatural lentor prevailing in the maſs of blood; nor is there any evidence of certain parts of the blood occaſionally acquiring a greater denſity and force of coheſion than ordinary; neither is there any proof of the denſer, or more coherent parts being preſent in the maſs of blood in ſuch greater proportion than uſual, as to occaſion a dangerous ſpiſſitude. The experiments of Doctor Browne Langriſh on this ſubject afford no concluſion, having been made on certain parts of the blood ſeparated from the reſt, without attending to the circumſtances of blood-letting, which very much alter the

ſtate of the ſeparation and concretion of the blood drawn out of the veins.

5. In the particular caſe of inflammation, there are ſeveral circumſtances which render it probable, that the blood is then more fluid than uſual.

6. Though an obſtruction ſhould be ſuppoſed to take place, it will not be ſufficient for producing the effects appearing in inflammation. An obſtruction of one veſſel does not, as has been imagined, increaſe the velocity of the blood in the neighbouring veſſels which are free; and, in fact, it appears from many obſervations and experiments, that conſiderable obſtructions may be formed, and may ſubſiſt, without producing the ſymptoms of inflammation.

CCXLII.

Obſtruction, therefore, is not to be conſidered as the primary cauſe of inflammation; but, at the ſame time, it is ſufficiently probable,

bable, that ſome degree of obſtruction does take place in every caſe of inflammation. The diſtention, pain, redneſs, and tumour attending inflammation, are only to be explained by ſuppoſing, that the extremities of the arteries do not readily tranſmit the unuſual quantity of blood, impelled into them by the increaſed action in the courſe of theſe veſſels. Such an obſtruction may be ſuppoſed to happen in every caſe of an increaſed impetus of the blood; but it is probable, that, in the caſe of inflammation, there is alſo a preternatural reſiſtance to the free paſſage of the fluids.

CCXLIII.

From the doctrine of fever, we are led to believe, that an increaſed action of the heart and arteries is not ſupported for any length of time, by any other means than a ſpaſm affecting the extreme veſſels; and that the ſame ſpaſm takes place in inflammation, ſeems probable from hence, that every conſiderable inflammation is introduced by a cold ſtage, and is accompanied with that and other circumſtances of pyrexia; and it ſeems alſo probable, that ſomething analogous to this occurs even in the caſe of thoſe inflammations, which ſeem leſs conſiderable, and to be purely topical.

CCXLIV.

From all this, the nature of inflammation may often be explained in the following manner. Some cauſes of inequality in the diſtribution of the blood may throw an unuſual quantity of it upon particular veſſels, to which it muſt neceſſarily prove a ſtimulus. But, further, it is probable, that, to relieve the congeſtion, the *vis medicatrix naturae* increaſes ſtill more the action of theſe veſſels, which it effects, by the formation of a ſpaſm on their extremities, as in all other febrile diſeaſes.

CCXLV.

CCXLV.

A ſpaſm, therefore, of the extreme arteries, ſupporting an increaſed action in the courſe of them, may be conſidered as the proximate cauſe of inflammation, at leaſt, in all caſes not ariſing from direct ſtimuli applied.

CCXLVI.

That, in inflammation, there is the concurrence of a conſtriction of the extreme veſſels, with an increaſed action in the other parts of them, ſeems probable, from the conſideration of Rheumatiſm. This is a ſpecies of inflammation which is often manifeſtly produced, either by cold applied to over-diſtended veſſels, or by cauſes of an increaſed impetus, and over-diſtenſion in veſſels previouſly conſtricted. Hence, the diſeaſe eſpecially appears at ſeaſons liable to frequent and conſiderable viciſſitudes of heat and cold.

To this we may add, that the parts of the body moſt frequently affected with inflammation, are thoſe expoſed, both to over-diſtenſion, from a change in the diſtribution of the fluids, and, at the ſame time, to the immediate action of cold. Hence, quinſies, and pneumonic inflammations are more frequent than any others.

CCXLVII.

That a ſpaſm of the extreme veſſels takes place in inflammation, we preſume further from what is at the ſame time the ſtate of the whole arterial ſyſtem. In every conſiderable inflammation, though ariſing in one part only, an affection is communicated to the whole ſyſtem, in conſequence of which an inflammation is readily produced in other parts beſide that firſt affected. This general affection is well known to phyſicians, under the name of the DIATHESIS PHLOGISTICA. It appears moſt commonly in perſons of the moſt rigid fibres; is often manifeſtly induced by the tonic, or aſtringent powers of cold; is increaſed by all tonic and ſtimulant powers applied to the body; is always attended with a hardneſs of the pulſe; and is moſt effectually taken off, by the relaxing power of blood-letting. From theſe circumſtances, it ſeems probable, that the diatheſis phlogiſtica conſiſts in an increaſed tone, or contractility, and perhaps contraction of the muſcular fibres of the whole arterial ſyſtem. Such a ſtate of the ſyſtem ſeems often to ariſe, and ſubſiſt for ſome time, without the apparent inflammation of any particular part; but ſuch a ſtate of the ſyſtem renders it probable, that a ſpaſm may, at the ſame time, readily ariſe in any of the extreme veſſels, and particular inflammation be produced. It, however, appears alſo, that the general diatheſis frequently ariſes from inflammation begun in a particular part.

CCXLVIII.

We have thus endeavoured, in the caſe of inflammation, to explain the ſtate of the whole ſyſtem, as well as that of the part more particularly affected, and this laſt, as in its firſt formation; but, when it ſubſiſts for ſome time, various changes take place in the part affected, of which we muſt now take notice.

SECT. III.

OF THE TERMINATIONS OF INFLAMMATION.

CCXLIX.

If an inflammation be cured while the ſtate and texture of the part remain entire, the diſeaſe is ſaid to be terminated by RESOLUTION.

This happens when the previous congeſtion and ſpaſm have been in a moderate degree, and the increaſed impetus of the blood has been ſufficient to overcome the ſpaſm, to dilate the veſſels, and to remove the congeſtion, ſo that the part is reſtored to its ordinary and healthy ſtate.

A reſolution takes place alſo when the increaſed impetus of the fluids has produced an increaſed exhalation into the adjoining cellular texture, or, an increaſed excretion in ſome neighbouring part, and has thereby relieved the congeſtion in the veſſels, and relaxed the ſpaſm of the inflamed part.

Laſtly, a reſolution may take place, when the increaſed impetus of the blood in the whole ſyſtem occaſions an evacuation, which, though in a diſtant part, may prove ſufficient to take off the phlogiſtic diatheſis of the whole ſyſtem, and thereby relieve the congeſtion and ſpaſm of the particular part affected by inflammation.

CCL.

The tumour which appears in inflammation may be imputed in part to the congeſtion of fluids in the veſſels; but is owing chiefly to an effuſion of matter into the adjoining cellular texture, and, accordingly, tumours ſeldom appear but in parts adjoining to a lax cellular texture. If, in this caſe, the matter effuſed be only a larger quantity of the ordinary exhaling fluid, this, when the free circulation in the veſſels is reſtored, will be readily abſorbed, and the ſtate of the part will become the ſame as before. But, if the increaſed impetus of the blood in an inflamed part dilate the exhalant veſſels to ſuch a degree, that they pour out an entire ſerum, this will not be ſo readily reabſorbed; and, from the experiments of Sir John Pringle and Mr Gaber, we learn, that, under ſtagnation, the ſerum may undergo a particular change, by having the gluten preſent in it changed into a white, opaque, moderately viſcid, mild liquor, which we nam Pus. When this change happens in the inflamed part, as it is at the ſame time attended with an abatement of the redneſs, heat, and pain which formerly diſtinguiſhed the inflammation, the diſeaſe is ſaid to be terminated by SUPPURATION; and an inflamed part, containing a collection of pus, is called an ABSCESS.

CCLI.

In inflammation, the tendency of it to ſuppuration may be diſcovered, by the continuance of the inflammation, without the ſymptoms of reſolution; by ſome remiſſion of the pain of diſtenſion; and, by the pain being of a throbbing kind, more diſtinctly connected with the pulſation of the arteries; by the pulſe of the arteries being fuller and ſofter, and often, by the patient's being affected frequently with cold ſhiverings. The period at which this takes place is not determined,

mined, but is ſometimes ſooner, ſometimes later. When the tendency is determined, the time neceſſary to a complete ſuppuration is different in different caſes.

When pus is completely formed, the pain formerly in the part entirely ceaſes, and a weight is felt in it. If the collection is formed immediately under the ſkin, the tumour becomes pointed, the part becomes ſoft, and the fluctuation of the fluid within can be commonly perceived; and, at the ſame time, for the moſt part, the redneſs of the ſkin formerly prevailing is entirely gone.

CCLII.

In abſceſſes, while the pus is formed of one part of the matter which had been effuſed, the other and thinner parts are re-abſorbed, ſo that, in the abſceſs, when opened, a pus alone appears. This pus, however, is not the converted gluten alone; for the converſion of this being the effect of a particular fermentation, which may affect the ſolid ſubſtance of the part, and perhaps every ſolid of animal bodies; ſo it moſt readily, and particularly, affects the cellular texture, and thereby a great deal of this is eroded, and forms a part of the pus; and it generally happens alſo, that ſome of the ſmaller red veſſels are eroded, and ſome red blood appears mixed with the pus in abſceſſes. Upon the whole, the internal ſurface of an abſceſs is to be conſidered as an ulcerated part.

CCLIII.

This account of ſuppuration explains, why an abſceſs, when formed, may either ſpread into the cellular texture of the neighbouring parts, or, by eroding the incumbent teguments, be poured out upon the ſurface of the body, and produce an open ulcer.

CCLIV.

The matter of abſceſſes, and of the ulcers following them, is various, according to the nature of what is effuſed, and which may be,

1. A matter thinner than ſerum.
2. An entire and pure ſerum.
3. A quantity of red globules.
4. A matter furniſhed by particular glands ſeated in the part.

It is the ſecond only which affords a proper pus, the effuſion whereof, whether in abſceſſes or ulcers, ſeems to be the peculiar effect of an inflammatory ſtate of the veſſels; and from this cauſe it is, that, when ulcers do not produce a proper pus, a circumſtance always abſolutely neceſſary to their healing, we, in many caſes, bring the ulcers to a ſtate of ſuppuration, by the application of ſtimulants exciting inflammation, ſuch as balſams, mercury, copper, &c.

CCLV.

When the matter effuſed into the cellular texture of an inflamed part, is tainted with a putrid ferment, this produces, in the effuſed matter, a change, approaching more or leſs to a complete putrefaction. When this is in a moderate degree, and affects only the fluids effuſed, with the ſubſtance of the cellular texture, the part is ſaid to be affected with GANGRENE; but, if the putrefaction affect alſo the veſſels and muſcles of the part, the diſeaſe is ſaid to be a SPHACELUS.

CCLVI.

A gangrene, and its conſequences, may ariſe from a putrid ferment diffuſed in the maſs of blood, and poured out with the ſerum effuſed, which it operates upon more powerfully while the ſerum is ſtagnant; but it may alſo ariſe from the peculiar nature of the matter effuſed being diſpoſed to putrefaction; as particularly ſeems to be the caſe of the red globules of the blood effuſed in a large quantity. In a third manner alſo, a gangrene ſeems frequently to ariſe, from the violent excitement of the inflammation deſtroying the tone of the veſſels; whereby the whole fluids ſtagnate, and run into putrefaction, which taking place in any degree, deſtroys further the tone of the veſſels, and ſpreads the gangrene.

CCLVII.

In inflammation, the tendency to gangrene may be apprehended from an extreme violence of pain and heat in the inflamed part, and from a great degree of pyrexia attending the inflammation.

The actual coming on of gangrene may be perceived by the colour of the inflamed part changing from a clear to a dark red, by bliſters ariſing upon the part, by the part becoming ſoft, flaccid, and inſenſible, and by the ceaſing of all pain while theſe appearances take place.

As the gangrene proceeds, the colour of the part becomes livid, and, by degrees, quite black, the heat of the part entirely ceaſes, the ſoftneſs and flaccidity of the part increaſes, it loſes its conſiſtence, exhales a cadaverous ſmell, and may then be conſidered as affected with ſphacelus.

CCLVIII.

Gangrene is thus a third manner in which inflammation terminates, and the ſchools have commonly marked a fourth termination of inflammation; which is, by a ſchirrus, or an indolent hardneſs of the part formerly affected with inflammation. This, however, is a rare occurrence, and does not ſeem to depend ſo much upon the nature of inflammation, as upon the circumſtances of the part affected. It is in glandular parts chiefly that ſchirroſity is obſerved, and it is probably owing to the parts readily admitting a ſtagnation of the fluids. We have obſerved, that inflammation ſeldom induces ſchirrus, which more commonly ariſes from other cauſes, and when inflammation ſupervenes, which it is ſooner or later apt to do, it does not ſo commonly increaſe as change the ſchirroſity, into ſome kind of abſceſs. From theſe conſiderations, it does not ſeem neceſſary to take any further notice of ſchirrus, as a termination of inflammation.

CCLIX.

There are, however, ſome other terminations of inflammation not commonly taken notice of, but now to be mentioned. One is, by the effuſion of a portion of the entire maſs of blood, either by means of rupture or anaſtomoſis, into the adjoining cellular texture. This happens eſpecially in inflammations of the lungs, where the effuſed matter, by compreſſing the veſſels, and ſtopping the circulation, occaſions a fatal ſuffocation; and this is perhaps the manner in which pneumonic inflammation moſt commonly proves fatal.

CCLX.

Another kind of termination is, that of certain inflammations on the ſurface of the body, when there is poured out under the cuticle a fluid, too groſs to paſs through its pores, and which therefore ſeparates it from the ſkin, and raiſes it up into the form of a veſicle containing the effuſed fluid; and by which effuſion the previous inflammation is taken off.

CCLXI.

Beſide theſe already mentioned, I believe there is ſtill another manner in which inflammation terminates. When the internal parts are affected with inflammation, there appears almoſt always upon their ſurface an exudation, which appears partly in a viſcid concretion upon their ſurface, and partly in a thin ſerous fluid, effuſed into the cavities in which the inflamed viſcera are placed,

placed. Though theſe appearances very conſtantly accompany thoſe inflammations which have proved fatal, it is, however, probable, that like circumſtances may attend theſe inflammations terminated by reſolution, and may contribute to that event, as there are inſtances of pneumonic inflammation terminating in a hydrothorax.

SECT. IV.

OF THE REMOTE CAUSES OF INFLAMMATION.

CCLXII.

The remote cauſes of inflammation may be reduced to four heads.

1. The application of ſtimulant ſubſtances, among which are to be reckoned the action of fire, or burning.

2. External violence operating mechanically in wounding, bruiſing, or overſtretching the parts.

3. Extraneous ſubſtances, lodged in any part of the body, though they be neither of an acrid quality, nor of a pointed form.

4. Cold, in a certain degree, not ſufficient immediately to produce gangrene.

It will not be difficult to underſtand, how theſe remote cauſes, ſingly, or in concurrence, produce the proximate cauſe of inflammation.

CCLXIII.

We cannot perceive, that, in different caſes of inflammation, there is any difference in the ſtate of the proximate cauſe, except in the degree; and, though ſome difference of inflammation may ariſe from the difference of its remote cauſes, this is not neceſſary to be taken notice of here; becauſe the different appearances which attend different inflammations, may be referred, for the moſt part, to the difference of the part affected, as will appear, when we ſhall conſider the ſeveral genera and ſpecies marked in the Noſology. In treating of theſe, we ſhall find a more proper occaſion for taking notice of the different ſtates of the proximate, or of the differences of the remote cauſe, than by treating of them in general here.

SECT. V.

OF THE CURE OF INFLAMMATION.

CCLXIV.

The indications of cure in inflammation are different, according as it may be ſtill capable of reſolution, or may have taken a tendency to the ſeveral other terminations above mentioned. Its tendency to theſe laſt is not always at firſt obvious; and, therefore, upon the firſt appearance of inflammation, the cure of it, by reſolution, is always to be attempted. The indications of cure, for this purpoſe, are,

1. To remove the remote cauſes, when they are evident, and continue to operate.

2. To take off the phlogiſtic diatheſis affecting the whole ſyſtem, or the particular part.

3. To take off the ſpaſm of the particular part, by remedies applied to the whole ſyſtem, or to the part itſelf.

CCLXV.

The means of removing the remote cauſes will readily occur, from conſidering the particular nature and circumſtances of the different kinds. Acrid matters muſt be removed, or their action muſt be prevented, by the application of demulcents. Compreſſing and overſtretching powers muſt be taken away, and, from their ſeveral circumſtances, the means of doing ſo will be obvious.

CCLXVI.

The means of taking off the phlogiſtic diatheſis of the ſyſtem are the ſame with thoſe for diminiſhing the violence of reaction in fever, which are mentioned and treated of from (CXXV.) to (CXLVIII.), and therefore need not be repeated here.

CCLXVII.

The means of taking off the ſpaſm of the particular part are much the ſame as thoſe mentioned above, for taking off the ſpaſm of the extreme veſſels in the caſe of fever, and which are treated of from (CXLIX.) to (CXCIX.) Only it is to be obſerved, that topical bleedings are here eſpecially indicated, and that ſome of the other remedies are to be directed more exactly to the part particularly affected; the management of which will be more properly conſidered when we ſhall treat of particular inflammations.

CCLXVIII.

When a tendency to ſuppuration (CCLI.) is diſtinctly perceived, as we ſuppoſe it to depend upon the effuſion of a fluid, which cannot be eaſily reabſorbed, ſo it becomes neceſſary that this fluid be converted into pus, as the only natural means of obtaining its evacuation; and, as the effuſion is, perhaps, ſeldom made without ſome rupture of the veſſels, to the healing of which a pus is abſolutely neceſſary; ſo, in the caſe of a tendency to ſuppuration, the indication of cure is always to promote the production of a perfect pus as quickly as poſſible.

CCLXIX.

For this purpoſe, various remedies, ſuppoſed to poſſeſs a ſpecific power, have been propoſed; but we can perceive no ſuch power in any of them; and, in my opinion, all that can be done is, to favour the ſuppuration by ſuch applications, as may ſupport a moderate heat in the part, as by ſome tenacity may confine the perſpiration of the part, and as, by an emollient quality, may weaken the coheſion of the teguments, and favour their eroſion.

CCLXX.

As in the caſe of certain effuſions, a ſuppuration is not only unavoidable, but deſirable, it may be ſuppoſed, that moſt of the means of reſolution formerly mentioned ſhould be avoided; and accordingly our practice is commonly ſo directed. But, as we obſerve, on the one hand, that a certain degree of increaſed impetus, or of the original circumſtances of inflammation, is neceſſary to produce a proper ſuppuration, ſo it is then eſpecially neceſſary to avoid thoſe means of reſolution which may diminiſh too much the force of the circulation. And, on the other hand, as the impetus of the blood, when violent, is found to prevent the proper ſuppuration, ſo, in ſuch caſes, though a tendency to ſuppuration may have begun, it may be proper to continue thoſe means of reſolution which moderate the force of the circulation.

With reſpect to the opening of abſceſſes, when completely formed, we refer to the writings on ſurgery.

CCLXXI.

When an inflammation has taken a tendency to gangrene, that event is to be prevented by every poſſible means; and theſe muſt be different according to the nature of the ſeveral cauſes occaſioning that tendency, which may be underſtood from what has been already ſaid of theſe cauſes. After a gangrene has, in ſome degree, taken place, it can be cured only by the ſeparation of the dead from the living parts. This, in certain circumſtances, can be performed, and moſt properly too, by the knife.

In other caſes, it can be done by exciting a ſuppuratory inflammation on the verge of the living part, whereby its coheſion with the dead may be every where broken off, ſo that the latter may fall off by itſelf. While this is doing, it is proper to prevent the further putrefaction of the part, and its ſpreading wider. For this purpoſe, various antiſeptic applications have been propoſed; but we are of opinion, that, while the teguments are entire, theſe applications can hardly have any effect; and, therefore, that the fundamental procedure muſt be to ſcarify the part ſo as to reach the living ſubſtance, and, by the wounds made there, to excite the ſuppuration required. By the ſame inciſions alſo, we give acceſs to antiſeptics, which may both prevent the progreſs of the putrefaction in the dead, and excite the inflammation neceſſary on the verge of the living part.

CCLXXII.

When the gangrene proceeds from a loſs of tone, and when this, communicated to the neighbouring parts, prevents that inflammation which, as we have ſaid, is neceſſary to the ſeparation of the dead part from the living, it will be proper to obviate this loſs of tone by tonic medicines given internally; and, for this purpoſe, the Peruvian bark has been found to be eſpecially effectual. That this medicine operates by a tonic power, we have endeavoured to prove above (CCXIII.); and, from what is ſaid in (CCXIV.) the limits of its uſe alſo may be learned. When the gangrene ariſes from the violence of inflammation, the bark may not only fail of proving a remedy, but may do harm; and its power as a tonic is eſpecially ſuited to thoſe caſes of gangrene, which proceed from an original loſs of tone, as in the caſe of palſy and oedema, or in thoſe caſes of inflammation where a loſs of tone takes place, while the original inflammatory ſymptoms are removed.

CCLXXIII.

The other terminations of inflammation, either do not admit of any treatment, except that of preventing them by the means of reſolution, or they belong to a treatiſe of ſurgery, rather than to this place.

And, therefore, having thus delivered the general doctrine, we proceed now to conſider the particular genera and ſpecies of inflammation.

We have hinted above, that the difference of inflammation ariſes chiefly from the difference of the part affected; and we have, therefore, in the firſt place, arranged them, as they are cutaneous, viſceral, or articular; in which order we are now to conſider them.

CHAP. II.

OF INFLAMMATION, MORE STRICTLY CUTANEOUS.

CCLXXIV.

Cutaneous inflammations are of two kinds, commonly diſtinguiſhed by the names of PHLEGMON and ERYSIPELAS.

Of the latter there are two caſes, which ought to be diſtinguiſhed by different appellations. When the diſeaſe is an affection of the ſkin alone, and very little of the whole ſyſtem, or when the affection of the ſyſtem is only ſymptomatical of the external inflammation, we ſhall give the diſeaſe the name of ERYTHEMA; and, when the external inflammation is an exanthema, and ſymptomatical of an affection of the whole ſyſtem, we ſhall then name the diſeaſe ERYSIPELAS.

CCLXXV.

It is the erythema only that we are to conſider here. For the difference of the appearances in the phlegmon and erythema, we refer to our Noſology; See Syn. Noſol. Meth. vol. II. pag. 83. & 85. And we ſhall here only obſerve, that the difference of theſe appearances ſeems to depend on the different ſeat of the inflammation. In the phlegmon, the inflammation ſeems to affect eſpecially the veſſels on the internal ſurface of the ſkin communicating with the lax ſubjacent cellular texture; whence a more copious effuſion," and that too of ſerum, convertible into pus, takes place. In the erythema, the affection is of the veſſels on the external ſurface of the ſkin, communicating with the rete mucoſum, which does not admit of any effuſion, but what ſeparates the cuticle, and gives occaſion to the formation of

and larg
tumor

only

of a bliſter, while the ſmaller ſize of the veſſels admits only of the effuſion of a thin fluid, very ſeldom convertible into pus.

Beſides theſe differences in the circumſtances of theſe two kinds of inflammation, it is probable that they differ alſo with reſpect to their cauſes. Erythema is the effect of all kinds of acrids externally applied to the ſkin; and, when it ariſes from an internal cauſe, it is from an acrimony poured out on the ſurface of the ſkin under the cuticle. In the phlegmon, an acrimony is not commonly evident.

CCLXXVI.

Theſe differences in the ſeat and cauſes of the phlegmon and erythema being admitted, it will appear, that the erythema muſt affect thoſe internal parts only, whoſe ſurfaces are covered with an epithelion, or membrane, analogous to the cuticle. The ſame difference of cauſes, and of the ſeat now marked, will alſo explain what has been delivered by practical writers, with reſpect to the cure of theſe different cutaneous inflammations. But we ſhall not proſecute this here, becauſe it falls under the province of ſurgery, which, in this courſe, we cannot enter into. For the ſame reaſon, we ſhall not ſay any thing of the variety of external inflammation, which might otherwiſe be conſidered here.

CHAP. III.

OF OPHTHALMIA, OR INFLAMMATION OF THE EYE.

CCLXXVII.

The inflammation of the eye may be conſidered as of two kinds, according as it is ſeated in the membranes of the ball of the eye, when we name it OPHTHALMIA MEMBRANARUM, or as it is ſeated in the ſebaceous glands placed in the tarſus, or edges of the eye-lids, in which caſe it may be termed OPHTHALMIA TARSI.

Theſe two kinds are very frequently connected together, as the one may readily excite the other; but they are ſtill to be diſtinguiſhed according as the one or the other may happen to be the primary affection.

CCLXXVIII.

CCLXXVIII.

The inflammation of the membranes of the eye affects eſpecially, and moſt frequently, the adnata, and appears in a turgeſcence of its veſſels; ſo that the red veſſels which are naturally there, become not only increaſed in ſize, but many more appear than did in a natural ſtate. This turgeſcence of the veſſels is attended with pain, eſpecially upon the motion of the ball of the eye; and this irritation, like every other, applied to the ſurface of the eye, produces an effuſion of tears from the lachrymal gland.

This inflammation commonly, and chiefly, affects the adnata ſpread on the anterior part of the bulb of the eye; but uſually ſpreads alſo along the continuation of the adnata on the inſide of the palpebrae; and, as that is extended on the tarſus palpebrarum, the excretories of the ſebaceous glands opening there are alſo frequently affected. When the affection of the adnata is conſiderable,

derable, it may be communicated to the ſubjacent membranes of the eye, and even to the retina itſelf, which thereby acquires ſo great a ſenſibility, that every impreſſion of light becomes painful.

CCLXXIX.

The inflammation of the membranes of the eye is in different degrees, according as the adnata is more or leſs affected, or according as the inflammation is either of the adnata alone, or of the ſubjacent membranes alſo; and, upon theſe differences, different ſpecies have been eſtabliſhed, and different appellations given to them. But we ſhall not proſecute the conſideration of theſe, being of opinion, that all the caſes of the Ophthalmia membranarum differ only in degree, and are to be cured by remedies of the ſame kind, more or leſs employed.

CCLXXX.

CCLXXX.

The proximate cauſe of Ophthalmia is not different from that of inflammation in general; and the different circumſtances of Ophthalmia may be explained by the difference of its remote cauſes, and by the different parts of the eye which it happens to affect; as may be underſtood from what has been already ſaid. We now proceed to conſider the Cure.

CCLXXXI.

The Ophthalmia membranarum requires the remedies proper for inflammation in general; and, when the deeper-ſeated membranes are affected, and eſpecially when a pyrexia is preſent, large general bleedings may be neceſſary. But this laſt is ſeldom the caſe; and, for the moſt part, the ophthalmia is an affection purely local, accompanied with little or no pyrexia. General bleedings, therefore, have little effect upon it, and the cure is chiefly to be obtained by topical bleedings, that is, blood drawn from veſſels near the inflamed part; and opening the jugular vein or the temporal artery, may be conſidered as in ſome meaſure of this kind. It is commonly ſufficient to apply a number of leeches round the eye; and it is perhaps better ſtill to draw blood by cupping and ſcarifying upon the temples. In many caſes, the moſt effectual remedy is, that of ſcarifying the internal ſurface of the inferior eye-lid, and cutting the turgid veſſels upon the adnata itſelf.

CCLXXXII.

Beſides blood-letting, purging, as a remedy ſuited to inflammation in general, has been conſidered as peculiarly adapted to inflammations in any of the parts of the head, and therefore to Ophthalmia; and it is ſometimes uſeful; but, for the reaſons given before

fore with reſpect to general bleeding, purging in the caſe of ophthalmia does not prove uſeful in any proportion to the evacuation excited.

CCLXXXIII.

For relaxing the ſpaſm in the part, and taking off the determination of the fluids to it, bliſtering near the part has commonly been found uſeful.

CCLXXXIV.

Ophthalmia, as an external inflammation, admits of topical applications. All theſe, however, which increaſe the heat and relax the veſſels of the part, prove hurtful; and the admiſſion of cool air to the eye, and the application of cooling and aſtringent medicines, which at the ſame time do not produce irritation, prove uſeful.

CCLXXXV.

[illegible]

CCLXXXV.

In the cure of Ophthalmia, much care is requiſite to avoid all irritation, particularly that of light; and the only and certain means of doing this, is by keeping the patient in a very dark chamber.

CCLXXXVI.

Theſe are the remedies of the Ophthalmia membranarum; and, in the Ophthalmia tarſi, ſo far as it is produced by the Ophthalmia membranarum, the ſame remedies may be neceſſary. As, however, the Ophthalmia tarſi may often depend upon an acrimony depoſited in the ſebaceous glands of the part, ſo it may require various internal remedies according to the variety of the acrimony in fault, for which we muſt refer to the conſideration of ſcrophula, ſyphilis, or other diſeaſes with which this Ophthalmia may be connected; and, where theſe ſhall not be evident, certain remedies, more generally adapted to the evacuation of acrimony, ſuch as mercury, may be employed.

CCLXXXVII.

In the Ophthalmia tarſi, it almoſt conſtantly happens, that ſome ulcerations are formed on the tarſus. Theſe require the application of mercury or copper, which alone may ſometimes cure the whole affection; and they may be uſeful even when the diſeaſe depends upon a fault of the whole ſyſtem.

CCLXXXVIII.

Both in the Ophthalmia membranarum, and in the Ophthalmia tarſi, it is neceſſary to obviate that gluing together of the eye-lids which commonly happens in ſleep; and which may be done by inſinuating a little of any mild unctuous medicine between the eye-lids before the patient ſhall go to ſleep.

CHAP. IV.

Of Phrensy, or Phrenitis.

CCLXXXIX.

This is an inflammation of the parts contained in the cavity of the cranium, and may affect either the membranes of the brain, or the ſubſtance of the brain itſelf. Noſologiſts have thought, that the two caſes might be diſtinguiſhed by different ſymptoms, and therefore by different appellations; but we do not find this confirmed by obſervation and diſſection; and therefore ſhall treat of both caſes under the title of Phrenſy, or Phrenitis.

CCXC.

CCXC.

An idiopathic phrenſy is a rare occurrence, a ſympathic more frequent, and the aſcertaining either the one or the other is, on many occaſions, difficult, as the ſymptoms by which the diſeaſe is moſt commonly judged to be preſent, appear ſometimes without internal inflammation; and diſſections have ſhown, that the brain had been inflamed, when few of the peculiar ſymptoms of inflammation had appeared before.

CCXCI.

The ſymptoms by which it may be moſt certainly known are, an acute pyrexia, a violent headach, a redneſs of the face and eyes, an impatience of light or noiſe, a conſtant watching, and a delirium impetuous and furious. Some noſologiſts have thought theſe ſymptoms peculiar to an inflammation of the membranes, and that the inflammation

mation of the ſubſtance of the brain was to be diſtinguiſhed by ſome degree of coma attending it. It is for this reaſon that in the Noſology I have added the typhomania to the character of Phrenitis; but, upon farther reflection, I find no proper foundation for this; and, if we paſs from the characters above delivered, there will be no fixing the variety that occurs.

CCXCII.

The remote cauſes of phrenſy, are all thoſe which directly ſtimulate the membranes, or ſubſtance, of the brain, and particularly all thoſe which increaſe the impetus of the blood in the veſſels of the brain. The paſſions of the mind, and certain poiſons, are amongſt the remote cauſes of phrenſy; but, in what manner they operate, is not well underſtood.

CCXCIII.

The cure of phrenſy is the ſame with that of inflammation in general; but here the moſt powerful remedies are to be immediately emloyed. Large and repeated bleedings are eſpecially neceſſary, and theſe too taken from veſſels as near as poſſible to the part affected. The opening of the temporal artery has been recommended, and with ſome reaſon; but the practice is attended with inconvenience; and we believe that the opening the jugular veins may prove more effectual; with which, however, may be joined, the drawing of blood from the temples by cupping and ſcarifying.

CCXCIV.

It is probable that purging may be of more uſe in this than in ſome other inflammatory affections, as it may operate by revulſion.

For the ſame purpoſe of revulſion, warm pediluvia are a remedy, but ſomewhat ambiguous. The taking off the force of the blood in the veſſels of the head by an erect poſture, is commonly uſeful.

CCXCV.

Bliſtering is generally uſeful in this diſeaſe, but chiefly, when applied near to the part affected.

CCXCVI.

Every part of the antiphlogiſtic regimen is here neceſſary, and particularly the admiſſion of cold air. Even cold ſubſtances applied cloſe to the head, have been found uſeful, and the application of ſuch refrigerants as vinegar is certainly proper.

CCXCVII.

It appears certain, that opiates are hurtful in every inflammatory ſtate of the brain;

and it is to be obſerved, that, from the ambiguity mentioned in (CCXC.) the accounts of practitioners, with regard to the juvantia and laedentia in this diſeaſe, are very uncertain.

CHAP.

CHAP. V.

OF THE QUINSY, OR CYNANCHE.

CCXCVIII.

This name is applied to every inflammation of the internal fauces; but theſe inflammations are different according to the part of the fauces which may be affected, and to the nature of the inflammation. In our Noſology, therefore, after giving the character of the Cynanche as a genus, we have diſtinguiſhed five different ſpecies, which muſt here likewiſe be ſeparately conſidered.

SECT.

SECT. I.

OF THE CYNANCHE TONSILLARIS.

CCXCIX.

This is an inflammation of the mucous membrane of the fauces, affecting eſpecially that congeries of mucous follicles which forms the tonſils, and from thence ſpreading along the velum and uvula, ſo as frequently to affect every part of the mucous membrane.

CCC.

The diſeaſe appears by ſome tumour and redneſs of the parts, is attended with a painful and difficult deglutition; a troubleſome clammyneſs of the mouth and throat; a frequent, but difficult, excretion of mucus; and the whole is accompanied with pyrexia.

CCCI.

This ſpecies of quinſy is never contagious; it terminates frequently by reſolution, ſometimes by ſuppuration, but hardly ever by gangrene, although in this diſeaſe ſome ſloughy ſpots ſometimes appear upon the fauces.

CCCII.

This diſeaſe is commonly occaſioned by cold externally applied, particularly about the neck. It affects eſpecially the young and ſanguine, and a diſpoſition to it is often acquired by habit. It occurs eſpecially in ſpring and autumn, when viciſſitudes of heat and cold frequently take place. The inflammation and tumour are commonly at firſt moſt conſiderable in one tonſil, and afterwards abating in that, increaſe in the other.

CCCIII.

In the cure of this inflammation, ſome bleeding may be proper; but large general bleedings will ſeldom be neceſſary. The opening of the ranular veins ſeems to be an inſignificant remedy; and leeches ſet upon the external fauces are of more efficacy.

CCCIV.

This inflammation may be often relieved by moderate aſtringents, and particularly by acids applied to the inflamed parts. In many caſes, nothing has been found to give more relief than the vapour of warm water received into the fauces.

CCCV.

The other remedies of this diſeaſe are rubefacient, or bliſtering medicines, applied externally to the neck, and with theſe, the employment of antiphlogiſtic purgatives, as well as every part of the antiphlogiſtic regimen, except the application of cold.

CCCVI.

This diſeaſe, as we have ſaid, often terminates by reſolution, frequently accompanied with ſweating; which is therefore to be prudently favoured and encouraged.

CCCVII.

When this diſeaſe ſhall have taken a tendency to ſuppuration, nothing will be more uſeful than the frequent taking into the fauces the ſteams of warm water. When the abſceſs is attended with much ſwelling, if it break not ſpontaneouſly, it ſhould be opened by a lancet; and this does not require much caution, as even the inflammatory ſtate may be relieved by ſome ſcarification of the tonſils. I have never ſeen any caſe requiring bronchotomy.

SECT. II.

OF THE CYNANCHE MALIGNA.

CCCVIII.

This is a contagious diſeaſe, ſeldom ſporadic, and commonly epidemic. It attacks perſons of all ages, but more commonly thoſe in a young and infant ſtate. It attacks perſons of every conſtitution, when expoſed to the contagion, but moſt readily the weak and infirm.

CCCIX.

The diſeaſe is uſually attended with a conſiderable pyrexia, and the ſymptoms of the acceſſion of this, ſuch as, frequent cold ſhiverings, ſickneſs, anxiety, and vomiting, are often the firſt appearances of the diſeaſe. About the ſame time, a ſtiffneſs is felt in the neck, with ſome uneaſineſs in the internal fauces, and ſome hoarſeneſs of the voice. The internal fauces, when viewed, appear of a deep red colour, with ſome tumour; but this laſt is ſeldom conſiderable; and deglutition is ſeldom difficult or painful. Very ſoon, a number of white or aſh-coloured ſpots appear upon the inflamed parts. Theſe ſpots ſpread and unite, covering almoſt the whole fauces with thick ſloughs, which falling off, diſcover ulcerations. While theſe ſymptoms proceed in the fauces, they are generally attended with a coryza, which pours out a thin acrid and foetid matter, excoriating the noſtrils and lips. There is often alſo, eſpecially in infants, a frequent purging, and a thin acrid matter flows from the anus, excoriating this and the neighbouring parts.

CCCX.

With theſe ſymptoms, the pyrexia proceeds with a ſmall, frequent, and irregular pulſe, and there occurs a manifeſt exacerbation every evening, and ſome remiſſion in the mornings. A great debility appears in the animal functions, and the ſenſorium is affected with delirium, frequently with coma.

CCCXI.

On the ſecond day, or ſometimes later, efflореſcences appear upon the ſkin, which are ſometimes in ſmall points, hardly eminent; but, for the moſt part, in patches of a red colour, ſpreading and uniting, ſo as to cover the whole ſkin. They appear firſt about the face and neck, and, in the courſe of ſome days, ſpread by degrees to the lower extremities. The ſcarlet redneſs is often conſiderable on the hands and extremities of the fingers, which feel ſtiff and ſwelled. This eruption is often irregular as to the time of its appearance, its ſteadineſs, and the time of its continuance. It uſually continues four days, and goes off by ſome deſquamation of the cuticle; but neither on its firſt appearance, nor on its deſquamation, does it always produce a remiſſion of the pyrexia, or of the other ſymptoms.

CCCXII.

The progreſs of the diſeaſe depends on the ſtate of the fauces and of the pyrexia. When the ulcers on the fauces, by their livid and black colour, by the foetor of the breath, and by many marks of acrimony in the fluids, ſhew a tendency to gangrene, this takes place to a conſiderable degree, and the ſymptoms of a putrid fever conſtantly increaſing, the patient dies often on the third day, ſometimes later, but, for the moſt part, before the ſeventh. The acrimony poured out from the diſeaſed fauces muſt neceſſarily, in part, paſs into the pharynx, and there ſpread the infection into the oeſophagus, and ſometimes through the whole of the alimentary canal, propagating the putrefaction, and often exhauſting the patient by a frequent diarrhoea.

The acrid matter poured out in the fauces being again abſorbed, frequently occaſions large ſwellings of the lymphatic glands about the neck, and ſometimes to ſuch a degree, as to occaſion a ſuffocation.

It is ſeldom that the organs of reſpiration eſcape entirely unhurt, and very often the inflammatory infection is communicated to them. It appears from diſſections, that, in the Cynanche maligna, the larynx, and trachea are often affected in the ſame manner as in the Cynanche trachealis; and it is probable, that, in conſequence of that affection, the Cynanche maligna often proves fatal by ſuch a ſudden ſuffocation as happens in the proper Cynanche trachealis; but there is reaſon to ſuſpect that diſſectors have not always diſtinguiſhed properly between the two diſeaſes.

CCCXIII.

Theſe are the ſeveral fatal terminations of the Cynanche maligna, which, however, do not always take place. Sometimes the ulcers of the fauces are of a milder nature, and the fever is more moderate, and of a leſs putrid kind. And when, upon the appearance of the efflorescence on the ſkin, the fever ſuffers a remiſſion; when the efflorescence continues for three or four days, till it has ſpread over the whole body, and ends then by a deſquamation giving a further remiſſion of the fever; this often terminates entirely, by gentle ſweats, on or before the ſeventh day; and the reſt of the diſeaſe terminates in a few days more, by an excretion of ſloughs from the fauces, while ſleep, appetite, and the other marks of health, entirely return. From this, and the preceding paragraph, the prognoſtics in this diſeaſe may be readily learned.

CCCXIV.

In the cure of this diſeaſe, its ſeptic tendency is chiefly to be kept in view. The debility, with which it is attended, renders all evacuations by bleeding and purging improper, except in a few inſtances where the debility is leſs, and the inflammatory ſymptoms more conſiderable. The fauces are to be preſerved from the effects of the acrid matter poured out upon them, and are therefore to be frequently waſhed out by antiſeptic gargles or injections ; and the ſeptic tendency of the whole ſyſtem ſhould be guarded againſt and corrected by internal antiſeptics, eſpecially by the Peruvian bark given in ſubſtance from the beginning, and continued through the courſe of the diſeaſe. Emetics, both by vomiting and nauſeating, prove uſeful. When any conſiderable tumour occurs, bliſters applied externally will be of ſervice, and, in any caſe, may be fit to moderate the internal inflammation.

SECT. III.

OF THE CYNANCAE TRACHEALIS.

CCCXV.

This name has been given to an inflammation of the glottis, larynx, or upper part of the trachea, whether it affect the membranes of theſe parts, or the muſcles adjoining. It may ariſe firſt in theſe parts, and continue to ſubſiſt in them alone, or it may come to affect theſe parts from the Cynanche tonſillaris or maligna ſpreading into them.

CCCXVI.

In either way it has been a rare occurrence, and a few inſtances of it have been marked and recorded by phyſicians. It is to be known by a peculiar croaking ſound of the voice, by difficult reſpiration, with a ſenſe of ſtraitening about the larynx, and by a pyrexia attending it.

CCCXVII.

From the nature of theſe ſymptoms, and from the diſſection of the bodies of perſons who had died of this diſeaſe, there is no doubt of its being of an inflammatory kind. It does not, however, always run the courſe of inflammatory affections, but frequently produces ſuch an obſtruction of the paſſage of the air, as ſuffocates, and thereby proves ſuddenly fatal.

CCCXVIII.

If we judge rightly of the nature of this diſeaſe, it will be obvious, that the cure of it requires the moſt powerful remedies of inflammation, to be employed upon the very firſt appearance of the ſymptoms. When a ſuffocation is threatened, whether any remedies can be employed to prevent it, we have not had experience to determine.

CCCXIX.

The accounts which books have hitherto given us of inflammations of the larynx, and the parts connected with it, amount to what we have now ſaid; and the inſtances recorded have almoſt all of them happened in adult perſons; but there is a peculiar affection of this kind happening to infants, which has been little taken notice of till lately. Dr Home is the firſt who has given any diſtinct account of this diſeaſe; but, ſince he wrote, ſeveral other authors have taken notice of it, and have given different opinions with regard to it. Concerning this diverſity of opinions, I ſhall not at preſent inquire, but ſhall deliver the hiſtory and cure of this diſeaſe, in ſo far as theſe have ariſen from my own obſervation, from that of Dr Home, and of other ſkillful perſons in this neighbourhood.

CCCXX.

This diſeaſe ſeldom attacks infants till after they have been weaned. After this period, the younger they are, the more they are liable to the diſeaſe. The frequency of it becomes leſs as children become more advanced;

vanced; and there are no inſtances of children above twelve years of age being affected with it. It attacks children of the midland countries, as well as thoſe who live near the ſea. It does not appear to be contagious, and its attacks are frequently repeated in the ſame child. It is often manifeſtly the effect of cold applied to the body; and therefore appears moſt frequently in the winter and ſpring ſeaſons. It very commonly comes on with the ordinary ſymptoms of a catarrh; but ſometimes the peculiar ſymptoms of the diſeaſe ſhew themſelves at the very firſt.

CCCXXI.

Theſe peculiar ſymptoms are the following: A hoarſeneſs, with ſome ſhrillneſs and ringing ſound, both in ſpeaking and coughing, as if the noiſe came from a brazen tube. At the ſame time, there is a ſenſe of pain about the larynx, ſome difficulty of reſpiration,

tion, with a whizzing ſound in inſpiration, as if the paſſage of the air were ſtraitened. The cough which attends it, is commonly dry; and, if any thing be ſpit up, it is a matter of a purulent appearance, and ſometimes films, reſembling portions of a membrane. With all theſe ſymptoms, there is a frequency of pulſe, a reſtleſſneſs, and an uneaſy ſenſe of heat. When the internal fauces are viewed, they are ſometimes without any appearance of inflammation, but frequently a redneſs, and even ſwelling appears, and ſometimes in the fauces there is an appearance of matter like to that rejected by coughing. Together with the ſymptoms now deſcribed, and particularly with great difficulty of breathing, and a ſenſe of ſtrangling in the fauces, the patient is ſometimes ſuddenly taken off.

CCCXXII.

Many diſſections have been made of infants who had died of this diſeaſe, and almoſt conſtantly there has appeared a preternatural membrane lining the whole internal ſurface of the upper part of the trachea, and extending in the ſame manner downwards into ſome of its ramifications. This preternatural membrane may be eaſily ſeparated, and ſometimes has been found ſeparated in part from the ſubjacent proper membrane of the trachea. This laſt is commonly found entire, that is, without any appearance of eroſion or ulceration; but it frequently ſhows the veſtiges of inflammation, and is covered by a matter reſembling pus, like to that rejected by coughing; and very often a matter of the ſame kind is found in the bronchiae, ſometimes in conſiderable quantity.

CCCXXIII.

From the remote cauſes of this diſeaſe; from the catarrhal ſymptoms commonly attending it; from the pyrexia conſtantly preſent with it; from the ſame kind of preternatural membrane being found in the trachea, when the cynanche maligna is communicated to it; and, from the veſtiges of inflammation on the trachea diſcovered upon diſſection, we muſt conclude, that this diſeaſe conſiſts in an inflammatory affection of the mucous membrane of the larynx and trachea, producing an exudation analogous to that found on the ſurface of inflamed viſcera, and appearing partly in a membranous cruſt, and partly in a fluid reſembling pus.

CCCXXIV.

Though this diſeaſe conſiſts in an inflammatory affection, it does not commonly end either in ſuppuration or gangrene. The troubleſome circumſtance of it ſeems to conſiſt in a ſpaſm of the muſcles of the glottis, threatening ſuffocation.

CCCXXV.

CCCXXV.

When this diſeaſe terminates in health, it is by reſolution of the inflammation, by a ceaſing of the ſpaſm of the glottis, by an expectoration of the matter exuding from the trachea, and of the cruſts formed there, and frequently it ends without any expectoration, or at leaſt with ſuch only as attends an ordinary catarrh.

CCCXXVI.

When the diſeaſe ends fatally, it is by a ſuffocation ſeemingly depending upon a ſpaſm affecting the glottis; but ſometimes, probably, depending upon a quantity of matter filling the bronchiae.

CCCXXVII.

As we ſuppoſe the diſeaſe to be an inflammatory affection, ſo we attempt the cure of it by the uſual remedies of inflammation, and which for the moſt part we have found effectual. Bleeding, both general and topical, has often given immediate relief, and, by being repeated, has entirely cured the diſeaſe. Bliſtering alſo, near to the part affected, has been found uſeful. Upon the firſt attack of the diſeaſe, vomiting, immediately after bleeding, ſeems to be of conſiderable uſe, and ſometimes ſuddenly removes the diſeaſe. In every ſtage of the diſeaſe, the antiphlogiſtic regimen is neceſſary, and particularly the frequent uſe of laxative glyſters. Though we ſuppoſe that a ſpaſm affecting the glottis is often fatal in this diſeaſe, we have not found antiſpaſmodic medicines to be of any uſe.

SECT. IV.

OF THE CYNANCHE PHARYNGÆA.

CCCXXVIII.

In the Cynanche tonſillaris, the inflammation of the mucous membrane often ſpreads upon the pharynx, and into the beginning of the oeſophagus, and thereby renders deglutition more difficult and uneaſy; but ſuch a caſe does not require to be diſtinguiſhed as a different ſpecies from the common Cynanche tonſillaris, and only requires that blood-letting, and other remedies, ſhould be employed with greater diligence than in ordinary caſes. We have never ſeen any caſe in which the inflammation began in the pharynx, or in which this part alone was inflamed; but practical writers have taken notice of ſuch a caſe, and to them, therefore, I muſt refer, both for the appearances which diſtinguiſh it, and for the method of cure.

SECT. V.

OF THE CYNANCHE PAROTIDÆA.

CCCXXIX.

This is a diſeaſe known to the vulgar in every country of Europe, but has been little taken notice of by medical writers. It is often epidemic, and manifeſtly contagious. It comes on with the uſual ſymptoms of pyrexia, which is ſoon after attended with a conſiderable tumour of the external fauces and neck,

neck. This tumour appears firſt as a glandular moveable tumour at the corner of the lower jaw; but the ſwelling ſoon becomes uniformly diffuſed over a great part of the neck, ſometimes on one ſide only, but more commonly on both. The ſwelling continues to increaſe till the fourth day; but from that period it declines, and in a few days more paſſes off entirely. As the ſwelling of the fauces recedes, ſome tumour affects the teſticles in the male ſex, or the breaſts in the female. Theſe tumours are ſometimes large, hard, and ſomewhat painful; but are ſeldom either very painful or of long continuance. The pyrexia attending this diſeaſe is commonly ſlight, and recedes with the ſwelling of the fauces; but ſometimes, when the ſwelling of the teſticles does not ſucceed to that of the fauces, or when the one or the other has been ſuddenly repreſſed, the pyrexia becomes more conſiderable, is often attended with delirium, and has ſometimes proved fatal.

CCCXXX.

CCCXXX.

As this diſeaſe commonly runs its courſe without either dangerous or troubleſome ſymptoms; ſo it hardly requires any remedies. An antiphlogiſtic regimen, and avoiding cold, are all that will be commonly neceſſary. But when, upon the receding of the ſwellings, the pyrexia comes to be conſiderable, and threatens an affection of the brain, it will be proper, by warm fomentations, to bring back the ſwelling, and, by vomiting, bleeding, or bliſtering, to obviate the conſequences of its abſence.

CHAP. VI.

OF PNEUMONIC INFLAMMATION.

CCCXXXI.

Under this title, I mean to comprehend the whole of the inflammations affecting either the viſcera of the thorax, or the membrane lining the interior ſurface of that cavity; for neither do our diagnoſtics ſerve to aſcertain exactly the ſeat of the diſeaſe, nor does the difference in the ſeat of the diſeaſe give any conſiderable difference in the ſtate of the ſymptoms, or lead to any difference in the method of cure.

CCCXXXII.

Pneumonic inflammation, however various in the ſeat of it, ſeems to me to be always known and diſtinguiſhed by the following ſymptoms; pyrexia, difficult breathing, cough, and pain in ſome part of the thorax; but theſe ſymptoms are on different occaſions variouſly modified.

CCCXXXIII.

The diſeaſe almoſt always comes on with a cold ſtage, and is accompanied with the other ſymptoms of pyrexia, though, in a few inſtances, the pulſe may be not more frequent, nor the heat of the body increaſed beyond what is natural. Sometimes the pyrexia is from the beginning accompanied with the other ſymptoms; but frequently the pyrexia is formed for ſome hours before the other ſymptoms become conſiderable, and particularly before the pain be felt. For the moſt part, the pulſe is frequent, full, ſtrong, hard, and quick; but, in a few inſtances, eſpecially in the advanced ſtate of the diſeaſe, the pulſe is weak and ſoft, and at the ſame time irregular.

CCCXXXIV.

The difficulty of breathing is always preſent, and moſt conſiderable in inſpiration, both becauſe the lungs do not eaſily admit of a full dilatation, and becauſe the dilatation aggravates the pain attending the diſeaſe. The difficulty of breathing is alſo greater when the patient is in one poſture of the body rather than another. It is generally greater when he lies upon the ſide affected; but ſometimes the contrary happens. Very often the patient cannot lie eaſy upon either ſide, and can find eaſe only when lying on the back; and ſometimes he cannot breathe eaſily, except when in ſomewhat of an erect poſture.

CCCXXXV.

A cough always attends this diſeaſe; but, in different caſes, is more or leſs urgent and painful. It is ſometimes dry, that is, without any expectoration, eſpecially in the beginning of the diſeaſe; but more commonly it is, even from the firſt, moiſt, and the matter ſpit up various, both in conſiſtence and colour; and frequently it is ſtreaked with blood.

CCCXXXVI.

The pain attending this diſeaſe, is, in different caſes, felt in different parts of the thorax, but moſt frequently in one ſide. It has been ſaid to affect the right ſide more commonly than the left; but this is not certain; while, on the other hand, it is certain, that the left ſide has very often been affected. The pain is ſometimes felt as if it were under the ſternum, ſometimes in the back, between the ſhoulders, and, when in the ſides, its place has been higher or lower, more forward or backward; but the place of all others moſt frequently affected, is about the ſixth or ſeventh rib, near the middle of its length, or a little more forward. The pain is often ſevere and pungent, but ſometimes more dull and obtuſe, with a ſenſe of weight rather than of pain. It is moſt eſpecially ſevere and pungent when occupying the place laſt mentioned. For the moſt part, it continues fixed in one place, but ſometimes ſhoots from the ſide to the ſcapula, on one hand, or to the ſternum and clavicle on the other.

CCCXXXVII.

The different ſtate of ſymptoms now mentioned does not always aſcertain exactly the ſeat of the diſeaſe. To me it ſeems probable, that the diſeaſe is always ſeated, or at leaſt begins in ſome part of the pleura, taking that membrane in its greateſt extent, as now commonly underſtood; that is, as covering not only the internal ſurface of the cavity of the thorax, but alſo as forming the mediaſtinum, and as extended over the pericardium, and over the whole ſurface of the lungs.

CCCXXXVIII.

There is therefore little foundation for diſtinguiſhing this diſeaſe by different appellations taken from the part which may be ſuppoſed to be chiefly affected. The term Pleuriſy might be properly applied to every caſe of the diſeaſe; and is very improperly limited to that inflammation which begins in, and chiefly affects the pleura coſtalis. We believe that ſuch a caſe does truly occur; but we alſo believe it to be a rare occurrence, and that the diſeaſe much more frequently begins in, and chiefly affects the pleura inveſting the lungs, producing all the ſymptoms ſuppoſed to belong to what has been called the Pleuritis vera.

CCCXXXIX.

Some phyſicians have imagined, that there is a caſe of pneumonic inflammation, particularly entitled to the appellation of Peripneumony, and that is, the caſe of an inflammation beginning in the parenchyma, or cellular texture of the lungs, and having its ſeat chiefly there. But it ſeems to me very doubtful, if any acute inflammation of the lungs, or any diſeaſe which has been called peripneumony, be of that kind. It ſeems probable, that every acute inflammation begins in membranous parts; and, in every diſſection of perſons dead of peripneumony, the external membrane of the lungs, or ſome part of the pleura, has appeared to have been conſiderably affected.

CCCXL.

An inflammation of the pleura covering the upper ſurface of the diaphragm, has been diſtinguiſhed by the appellation of Paraphrenitis, as ſuppoſed to be attended with the peculiar ſymptoms of delirium, riſus ſardonicus, and other convulſive motions; but it is certain, that an inflammation of that portion of the pleura, and affecting alſo even the muſcular ſubſtance of the diaphragm, has often taken place without any of the ſymptoms mentioned; and I have met neither with diſſections, nor any accounts of diſſections, which ſupport the opinion, that an inflammation of the pleura covering the diaphragm, is attended with delirium more commonly than any other pneumonic inflammation.

or Diaphr
nitis

CCCXLI.

CCCXLI.

With reſpect to the ſeat of pneumonic inflammation, we muſt obſerve further, that, although it may ariſe and ſubſiſt chiefly in one part of the pleura only, it is however frequently communicated to other parts of the ſame, and commonly communicates a morbid affection to the whole extent of it.

CCCXLII.

The remote cauſes of pneumonic inflammation is, commonly, cold applied to the body, obſtructing perſpiration, and determining to the lungs, while at the ſame time the lungs themſelves are expoſed to the action of cold. Theſe circumſtances operate eſpecially when an inflammatory diatheſis prevails in the ſyſtem; and, therefore, upon perſons of the greateſt vigour; in cold climates; in the winter ſeaſon; and particularly in the ſpring, when viciſſitudes of heat and cold are frequent. The diſeaſe, however, may ariſe in any ſeaſon when ſuch viſſicitudes take place.

Other remote cauſes alſo may have a ſhare in this matter, ſuch as every means of obſtructing, ſtraining, or otherwiſe injuring the pneumonic organs.

The pneumonic inflammation has been ſometimes ſo much an epidemic, as to occaſion a ſuſpicion of its depending upon a ſpecific contagion; but we have not met with any evidence in proof of this. See Morgagni de cauſis et ſedibus morborum, epiſt. 21. art. 26.

CCCXLIII.

The pneumonic, like other inflammations, may terminate by reſolution, ſuppuration, or gangrene; but it has alſo a termination peculiar to itſelf, as has been hinted above, (CCLIX.) and which is, when it is attended with an effuſion of blood into the cellular texture of the lungs, which ſoon interrupting the circulation of the blood through this viſcus, produces a fatal ſuffocation. This indeed ſeems to be the moſt common termination of pneumonic inflammation, when it ends fatally; for, upon the diſſection of almoſt every perſon dead of that diſeaſe, it has appeared that ſuch an effuſion had happened.

CCCXLIV.

From the ſame diſſections, we learn, that pneumonic inflammation commonly produces an exudation from the internal ſurface of the pleura, which appears partly as a ſoft viſcid cruſt, often of a compact, membranous form, covering every where the ſurface of the pleura, and particularly thoſe parts where the lungs adhere to the pleura coſtalis, or mediaſtinum; and this cruſt ſeems always to be the cement of ſuch adheſions.

The ſame exudation ſhews itſelf alſo by a quantity of a ſerous fluid commonly found in the cavity of the thorax; and ſome exudation or effuſion is uſually found to have been made alſo into the cavity of the pericardium.

CCCXLV.

It ſeems probable alſo, that a like effuſion is ſometimes made into the cavity of the bronchiae; for, in ſome perſons who have died after labouring under a pneumonic inflammation for a few days only, the bronchiae have been found filled with a conſiderable quantity of a ſerous and thickiſh fluid, which I think muſt be conſidered rather as the effuſion above mentioned, having had its thinner parts taken off by reſpiration, than as a pus ſo ſuddenly formed in the inflamed part.

CCCXLVI.

It is, however, not improbable, that this effuſion, as well as that made into the cavities of the thorax and pericardium, may be a matter of the ſame kind with that which, in other inflammations, is poured into the cellular texture of the parts inflamed, and there converted into pus; but, in the thorax and pericardium, it does not always put on that appearance, becauſe the cruſt covering the ſurface prevents the abſorption of the thinner part. This abſorption, however, may be compenſated in the bronchiae, by the drying power of the air; and therefore the effuſion into them may put on a more purulent appearance. In many caſes of pneumonic inflammation, when the SPUTA are very copious, it is difficult to ſuppoſe, that the whole of them proceed from the mucous follicles of the bronchiae. It ſeems probable that a great part of them may proceed from the effuſed ſerous fluid we have been mentioning; and this too will account for the ſputa being ſo often of a purulent appearance. Perhaps the ſame thing will account for that purulent expectoration, and that purulent matter found in the bronchiae, which the learned Mr de Haen ſays he had often obſerved, when there was no ulceration of the lungs; and this explanation is at leaſt more probable than Mr de Haen's ſuppoſition of a pus formed in the circulating blood.

CCCXLVII.

To conclude this ſubject, we are of opinion, that the effuſion into the bronchiae, which we have mentioned (CCCXLV.) often concurs with the effuſion of red blood (CCCXLIII.) in occaſioning the ſuffocation which fatally terminates pneumonic inflammation; that the effuſion of ſerum alone may have this effect; and, that the ſerum poured out in a certain quantity, rather than any debility in the powers of expectoration, is the cauſe of that ceaſing of expectoration which precedes the fatal event; for, in many caſes, the expectoration has ceaſed, when no other ſymptoms of debility have appeared, and when, upon diſſection, the bronchiae have been found full of liquid matter. Nay, it is even probable, that, in ſome caſes, ſuch an effuſion may take place, without any ſymptoms of violent inflammation; and, in other caſes, the effuſion taking place may ſeem to remove the ſymptoms of inflammation which had appeared before, and thus account for thoſe unexpected fatal terminations which have ſometimes happened. Perhaps this effuſion will account alſo for many of the phenomena of the Peripneumonia Notha.

CCCXLVIII.

Pneumonic inflammation ſeldom terminates by reſolution, without being attended with ſome evident evacuation. An hemorrhage from the noſe happening on ſome of the firſt days of the diſeaſe, has ſometimes put an end to it; and it is ſaid, that an evacuation from the hemorrhoidal veins, a bilious evacuation by ſtool, and an evacuation of urine, with a copious ſediment, have ſeverally had the ſame effect; but ſuch occurrences have been rare and unuſual.

The evacuation moſt frequently attending, and ſeeming to have the greateſt effect in promoting reſolution, is an expectoration of a thick white or yellowiſh matter, a little ſtreaked with blood, copious, and brought up without much or violent coughing.

Very frequently the reſolution of this diſeaſe is attended with, and perhaps produced by a ſweat, which is warm, fluid, copious, over the whole body, and attended with an abatement of the frequency of the pulſe, of the heat of the body, and of other febrile ſymptoms.

CCCXLIX.

CCCXLIX.

The prognoſtics in this diſeaſe are formed from the ſtate of the principal ſymptoms. (CCCXXXII.)

A violent pyrexia is always dangerous.

The danger, however, is chiefly denoted by the difficulty of breathing. When the patient can lie on one ſide only; when he can lie on neither ſide, but upon his back only; when he cannot breathe with tolerable eaſe, except when the trunk of his body is erect; when, even in this poſture, the breathing is very difficult, and attended with a turgeſcence and fluſhing of the face, with partial ſweats about the head and neck, and an irregular pulſe; theſe circumſtances mark the difficulty of breathing in different degrees, and, conſequently, in proportion, the danger of the diſeaſe.

A frequent violent cough aggravating the pain, is always the ſymptom of an obſtinate diſeaſe.

As we believe that the diſeaſe is hardly ever reſolved, without ſome expectoration, ſo a dry cough muſt be always an unfavourable ſymptom.

As the expectoration formerly deſcribed (CCCXLVIII.) is a mark that the diſeaſe is proceeding to a reſolution, ſo an expectoration, which has not theſe conditions, muſt denote at leaſt a doubtful ſtate of the diſeaſe; but the marks taken from the colour of the matter are for the moſt part fallacious.

An acute pain, very much interrupting inſpiration, is always the mark of a violent diſeaſe, but not of a more dangerous diſeaſe than an obtuſe pain, attended with very difficult reſpiration.

When the pains which at firſt had affected one ſide only, ſhall afterwards ſpread into the other, or, when leaving the ſide firſt affected, they entirely paſs into the other; theſe are always marks of a dangerous diſeaſe.

A delirium coming on during a pneumonic inflammation is always a ſymptom denoting much danger.

CCCL.

When the termination of this diſeaſe proves fatal, it is on one or other of the days of the firſt week, from the third to the ſeventh. This is the moſt common caſe; but, in a few inſtances, death has happened at a later period of the diſeaſe.

When the diſeaſe is violent, but admitting of reſolution, this alſo happens frequently in the courſe of the firſt week; but, in a more moderate diſeaſe, the reſolution is often put off to the ſecond week.

The diſeaſe generally ſuffers a remiſſion on ſome of the days from the third to the ſeventh; which, however, may be often fallacious, as the diſeaſe ſometimes returns again with as much violence as before, and in ſuch caſe with great danger.

Sometimes the diſeaſe diſappears on the ſecond or third day, while an eryſipelas makes its appearance on ſome external part; and, if this continues fixed, the pneumonic inflammation does not recur.

CCCLI.

Pneumonia, like other inflammations, often ends in ſuppuration or gangrene.

CCCLII.

When a pneumonia, with ſymptoms neither very violent nor very ſlight, has continued for many days, it is to be feared it will end in a ſuppuration; but this is not to be determined by the number of days; for, not only after the fourth, but even after the tenth day, there have been examples of a pneumonia ending by a reſolution; and, if the diſeaſe has ſuffered ſome intermiſſion, and again recurred, there may be inſtances of a reſolution happening at a much later period from the beginning of the diſeaſe, than that juſt now mentioned.

CCCLIII.

But, if a moderate diſeaſe, in ſpite of proper remedies employed, be protracted to the fourteenth day day without any conſiderable remiſſion, a ſuppuration is pretty certainly to be expected; and it will be more certain ſtill, if no ſigns of reſolution have appeared, or if an expectoration which had appeared, ſhall have again ceaſed, and the difficulty of breathing has continued or increaſed, while the other ſymptoms have been rather abated.

3 54

CCCLV.

That, in a pnuemonia, the effuſion is made, which may lay the foundation of a ſuppuration, we conclude from the difficulty of breathing becoming greater when the patient is in a horizontal poſture, or when the patient can lie more eaſily on the affected ſide.

CCCLV.

That, in ſuch caſes, a ſuppuration has actually begun, we conclude from the patient's being frequently affected with ſlight cold ſhiverings, and with a ſenſe of cold, felt, ſometimes in one, and ſometimes in another part of the body. We form the ſame concluſion alſo from the ſtate of the pulſe, which is commonly leſs frequent and ſofter, but ſometimes quicker than before.

CCCLVI.

That a ſuppuration is already formed, we conclude from there being a conſiderable remiſſion of the pain which had before

fore ſubſiſted, while, at the ſame time, the cough, and eſpecially the dyſpnoea continue, and are rather increaſed. At the ſame time, the frequency of the pulſe is rather increaſed; the feveriſh ſtate ſuffers conſiderable exacerbations every evening, and, by degrees, a hectic, in all its circumſtances, comes to be formed.

CCCLVII.

The termination of pneumonia by gangrene is much more rare than has been imagined; and, when it does occur, it is uſually joined with the termination by effuſion, (CCCXLIII.) and the ſymptoms of the one are hardly to be diſtinguiſhed from thoſe of the other.

CCCLVIII.

The cure of pneumonic inflammation muſt proceed upon the general plan (CCLXIV);

(CCLXIV); but the importance of the part affected, and the danger to which it is expoſed, requires that the remedies be fully, as well as early, employed.

CCCLIX.

The remedy chiefly to be depended upon is that of bleeding at the arm, which will be performed with moſt advantage in the arm of the ſide affected, but may be done in either arm, as may be moſt convenient for the patient or the ſurgeon. The quantity muſt be ſuited to the violence of the diſeaſe, and the vigour of the patient; and, generally, ought to be as large as this laſt circumſtance will allow. The remiſſion of pain, and the relief of reſpiration, during the flowing of the blood, may limit the quantity to be then drawn; but, if theſe ſymptoms of relief do not appear, the bleeding ſhould be continued till the ſymptoms of a beginning ſyncope come on. It is ſeldem that one bleeding, however large, will prove a cure of this diſeaſe; and, though the pain and difficulty of breathing may be much relieved by the firſt bleeding, theſe ſymptoms commonly, and after no long interval, recur; often with as much violence as before. In the event of ſuch recurrence, the bleeding is to be repeated, even in the courſe of the ſame day, and perhaps to the ſame quantity as before.

Sometimes the ſecond bleeding may be larger than the firſt. There are perſons who, by their conſtitution, are ready to faint even upon a ſmall bleeding; and, in ſuch perſons, this may prevent the drawing ſo much blood at firſt as a pneumonic inflammation may require; but, as the ſame perſons are ſometimes found to bear after-bleedings better than the firſt, this allows the ſecond and ſubſequent bleedings to be larger, and to ſuch a quantity as the ſymptoms of the diſeaſe may ſeem to require.

CCCLX.

It is according to the ſtate of the ſymptoms, that bleedings are to be repeated; and they will be more effectual when practiſed in the courſe of the firſt three days than afterwards; but they are not to be omitted, although four days of the diſeaſe may have already elapſed. If the phyſician ſhall not have been called in ſooner, or if the bleedings ſhall not have been large enough during the firſt days, or even although theſe bleedings ſhall have procured ſome remiſſion; yet, upon the recurrence of the urgent ſymptoms, bleeding ſhould be repeated at any period of the diſeaſe, eſpecially within the firſt fortnight; and even afterwards, if a tendency to ſuppuration be not evident, or if, after a ſeeming ſolution, the diſeaſe ſhall have again returned.

CCCLXI.

With reſpect to the quantity of blood which ought, or which with ſafety may be taken away, no general rules can be delivered, as it muſt be very different, according to the ſtate of the diſeaſe, and the conſtitution of the patient. In an adult male of tolerable ſtrength, a pound of blood, Averdupois, is a full bleeding. Any quantity above twenty ounces is a large, and any quantity below twelve, a ſmall bleeding. A quantity of from four to five pounds, in the courſe of two or three days, is generally as much as ſuch patients will ſafely bear; but, if the intervals between the bleedings, and the whole of the time during which the bleedings have been employed has been long, the quantity taken upon the whole may be greater.

CCCLXII.

When a large quantity of blood has been already taken from the arm, and it is doubtful if more can be taken with ſafety in that manner, ſome blood may ſtill be taken by cupping and ſcarifying. Such a meaſure will be eſpecially proper, when the continuance or recurrence of pain, rather than the difficulty of breathing, becomes the urgent ſymptom; and then the cupping and ſcarifying ſhould be made as near to the pained part as it can be conveniently done.

CCCLXIII.

An expectoration takes place ſometimes very early in this diſeaſe; but if, notwithſtanding thereof, the urgent ſymptoms ſhould ſtill continue, the expectoration muſt not ſuperſede the bleedings we have mentioned; and, during the firſt days of the diſeaſe, its ſolution is not to be truſted to the expectoration alone. It is in a more advanced ſtate only, and when the ſymptoms have ſuffered a conſiderable remiſſion, that we may truſt the entire cure to a copious and free expectoration.

CCCLXIV.

During the firſt days of the diſeaſe, we do not find that bleeding ſtops expectoration. On the contrary, we have often found bleeding promote it; and it is in a more advanced ſtate of the diſeaſe only, when the patient, by large evacuations, and the continuance of the diſeaſe, has been already exhauſted, that bleeding ſeems to ſtop expectoration. We are of opinion, that even then bleeding does not ſtop expectoration ſo much by weakening the powers of expectoration, as by favouring the ſerous effuſion into the bronchiae, (CCCXLV.) and thereby preventing it.

CCCLXV.

While the bleedings we have mentioned ſhall be employed, it will be neceſſary to employ alſo every part of the antiphlogiſtic regimen (CXXVIII. CXXIX.), and particularly to prevent the irritation which might ariſe from any increaſe of heat. For this purpoſe, it will be proper to keep the patient out of bed, while he can bear it eaſily, and, when he cannot, to cover him very lightly while he lies in bed. The temperature of his chamber ought not to exceed ſixty degrees of Fahrenheit's thermometer ; and whether it may be at any time colder, I am uncertain.

CCCLXVI.

Mild and diluent drinks, moderately tepid, at leaſt never cold, given by ſmall portions at a time, ought to be adminiſtrated plentifully. Theſe drinks may be impregnated with vegetable acids. They may be properly accompanied alſo with nitre, or ſome other neutrals; but theſe ſalts ſhould be given ſeparately from the drink.

It has been alledged, that both acids and nitre are ready to excite coughing, and in ſome perſons they certainly have this effect; but, except in perſons of a peculiar habit, we have not found their effects in exciting cough ſo conſiderable or troubleſome as to prevent our ſeeking the advantages otherwiſe to be obtained from theſe medicines.

CCCLXVII.

Some practitioners have doubted, if purgatives can be ſafely employed in this diſeaſe; and indeed a ſpontaneous diarrhoea occurring in the beginning of the diſeaſe has ſeldom proved uſeful; but we have found the moderate uſe of cooling laxatives generally ſafe; and we have always found it uſeful to keep the belly open by frequent emollient glyſters.

CCCLXVIII.

To excite vomiting by emetics, we judge to be a dangerous practice in this diſeaſe; but we have found it uſeful to exhibit nauſeating doſes; and, in a ſomewhat advanced ſtate of the diſeaſe, we have found ſuch doſes have proved the beſt means of promoting expectoration.

CCCLXIX.

Fomentations and poultices applied to the pained part have been recommended, and may be uſeful; but the application of them is often inconvenient, and we omit it entirely for the ſake of the more effectual remedy, bliſtering.

Very early in the diſeaſe, a bliſter ſhould be applied as near to the pained part as poſſible. But as, when the irritation of a bliſter is preſent, it renders bleeding leſs effectual; ſo the application of the bliſter ſhould be delayed till a bleeding ſhall have been employed. If the diſeaſe be moderate, the bliſter may be applied immediately after the firſt bleeding; but, if the diſeaſe be violent, and it is preſumed that a ſecond bleeding may be neceſſary ſoon after the firſt, it will then be proper to delay the bliſter till after the ſecond bleeding, when it may be ſuppoſed that any farther bleeding may be poſtponed till the irritation ariſing from the bliſter ſhall have ceaſed. It may be frequently neceſſary in this diſeaſe to repeat the bliſtering, and, in that caſe, the plaſters ſhould always be applied ſomewhere on the thorax; for, when applied to more diſtant parts, they have little effect. The keeping the bliſtered parts open, and making what is called a perpetual bliſter, has much leſs effect than a freſh bliſtering.

CCCLXX.

As this diſeaſe often terminates by an expectoration, ſome means of promoting this have been often propoſed; but none of them appear to be very effectual, and ſome of them, being acrid ſtimulant ſubſtances, cannot be very ſafe.

The gums uſually employed ſeem too heating; ſquills ſeem to be leſs ſo; but they are not very powerful, and ſometimes inconvenient, by the conſtant nauſea they induce.

The volatile alkali may be of ſervice as an expectorant; but it ſhould be reſerved for an advanced ſtate of the diſeaſe.

Mucilaginous and oily demulcents appear to be uſeful, by allaying that acrimony of the mucus which occaſions too frequent coughing; and which coughing prevents the ſtagnation and thickening of the mucus, and thereby its becoming mild.

The receiving the ſteams of warm water into the lungs, impregnated with vinegar, has often proved uſeful in promoting expectoration.

But, of all other remedies, the moſt powerful for this purpoſe, are antimonial medicines, given in nauſeating doſes, as in (CCCLXVIII.) Of theſe, however, we have not found the kermes mineral more efficacious than emetic tartar, or antimonial wine; and the doſe of the kermes is much more uncertain than that of the others.

CCCLXXI.

Though a ſpontaneous ſweating often proves the criſis of this diſeaſe, it ought not to be excited by art, unleſs with much caution. At leaſt, we have not yet found it either ſo effectual or ſafe as ſome writers have alledged. When, after ſome remiſſion of the ſymptoms, ſpontaneous ſweats of a proper kind ariſe, they may be encouraged; but it ought to be without much heat, and without ſtimulant medicines. If, however, the ſweats be partial and clammy only, and a great difficulty of breathing ſtill remain, it will be very dangerous to encourage them.

CCCLXXII.

Phyſicians have differed much in opinion with regard to the uſe of opiates in pneumonic inflammations. To me it appears, that, in the beginning of the diſeaſe, and before bleeding and bliſtering have produced ſome remiſſion of the pain, and of the difficulty of breathing, opiates have a very bad effect by their increaſing the difficulty of breathing, and other inflammatory ſymptoms. But, in a more advanced ſtate of the diſeaſe, when the difficulty of breathing has abated, and when the urgent ſymptom is a cough, proving the chief cauſe of the continuance of the pain, and of the want of ſleep, opiates may be employed with great advantage and ſafety. The interruption of the expectoration, which they ſeem to occaſion, is for a ſhort time only; and they ſeem often to promote it, as they occaſion a ſtagnation of what was by frequent coughing diſſipated inſenſibly, and therefore give the appearance of what phyſicians have called Concocted Matter.

CCCLXXIII.

We might here give a ſection on the Carditis and Pericarditis, or the Inflammations of the Heart and Pericardium; but they hardly require a particular conſideration. An acute inflammation of the pericardium is almoſt always a part of the ſame pneumonic affection we have been treating of, and is not always diſtinguiſhed by any different ſymptoms; or, if it be, does not require any different treatment. The ſame may be ſaid of an acute inflammation of the heart itſelf; and, when it happens that the one or other is diſcovered by the ſymptoms of palpitation or ſyncope, no more is implied, than that the remedies of pneumonic inflammation ſhould be employed with greater diligence.

From diſſections, which ſhew the heart and pericardium affected with eroſions, ulcerations, and abſceſſes, we diſcover, that theſe parts had before been affected with inflammation; and while, at the ſame time, no ſymptoms of pneumonic inflammation had appeared, it may be alledged, that thoſe inflammations of the heart and pericardium ſhould be conſidered as diſeaſes independent of the pneumonic. This indeed is juſt; but the hiſtory of ſuch caſes proves, that the inflammation had been of a chronic kind, and hardly diſcovering themſelves, by any peculiar ſymptoms, or, if attended with ſuch as marked an affection of the heart, theſe are, at the ſame time, ſuch as have been known frequently to ariſe from other cauſes than inflammation. There is, therefore, upon the whole, no room for our treating more particularly of the inflammation of the heart or pericardium.

CHAP. VII.

OF THE GASTRITIS,

OR,

INFLAMMATION OF THE STOMACH.

CCCLXXIV.

Among the inflammations of the abdominal region, we have given a place in our Noſology to the Peritonitis, comprehending under this title, not only the inflammations affecting the peritonaeum lining the cavity of the abdomen, but thoſe alſo affecting the extenſions of this membrane in the omentum and meſentery. We are not, however, to treat of them here, becauſe we cannot ſay by what ſymptoms they are always to be known; and farther, becauſe, when known, they do not require any remedies beſide thoſe of inflammation in general. We proceed, therefore, to treat of thoſe inflammations which, affecting viſcera of peculiar functions, both give occaſion to peculiar ſymptoms, and require ſome peculiarities in the method of cure. We begin with the inflammation of the ſtomach.

CCCLXXV.

The inflammation of the ſtomach is of two kinds, Phlegmonic, or Eryſipelatous. The firſt may be ſeated in what is called the Nervous Coat of the ſtomach, or in the peritonaeum inveſting it. The ſecond is always ſeated in the Villous coat and cellular texture immediately ſubjacent.

CCCLXXVI.

The phlegmonic inflammation of the ſtomach, or what has been commonly treated ed of under the title of Gaſtritis, is known by an acute pain in ſome part of the region of the ſtomach, attended with pyrexia, frequent vomiting, eſpecially upon any thing being taken down into the ſtomach, and frequently with hiccup. The pulſe is commonly ſmall and hard, and there is a greater loſs of ſtrength in all the functions than in the caſe of almoſt any other inflammation.

CCCLXXVII.

This inflammation may be produced by various cauſes; as, by external contuſion; by acrids of various kinds taken into the ſtomach; frequently by very cold drink taken into it, while the body is very warm, and ſometimes by over-diſtenſion, from the having taken in a large quantity of food of difficult digeſtion. All theſe may be conſidered as external cauſes; but the diſeaſe ſometimes ariſes alſo from internal cauſes not ſo well underſtood. It may ariſe from inflammations of the neighbouring parts communicated to the ſtomach, and then is to be conſidered as a ſymptomatic affection. It may ariſe alſo from various acrimony generated within the body, either in the ſtomach itſelf, or in other parts, and poured into the cavity of the ſtomach. Theſe are cauſes more directly applied to the ſtomach; but there are others originating perhaps elſewhere, and affecting the ſtomach only ſympathically. Such ſeem to have acted in the caſe of putrid fevers and exanthematic pyrexiae, in which we have found, upon diſſection, the ſtomach to have been affected with inflammation.

CCCLXXVIII.

From the ſenſibility of the ſtomach, and its communication with the reſt of the ſyſtem, it will be obvious, that the inflammation of this organ, by whatever cauſes produced,

duced, may be attended with fatal conſequences. Particularly, by the great debility which it ſuddenly produces, it may prove ſuddenly fatal, without running the common courſe of inflammations.

When it laſts long enough to follow the ordinary courſe of other inflammations, it may terminate by reſolution, gangrene, or ſuppuration. The ſchirroſities which are often found to affect the ſtomach, are ſeldom known to be the conſequences of inflammation.

CCCLXXIX.

The tendency of this diſeaſe to admit of reſolution, may be known by its having ariſen from no violent cauſe, by the moderate ſtate of the ſymptoms, and by a gradual remiſſion of theſe ſymptoms in the courſe of the firſt, or, at moſt, of the ſecond week of the diſeaſe.

CCCLXXX.

The tendency to ſuppuration may be known by the ſymptoms continuing, but in a moderate degree, for more than one or two weeks, and by a conſiderable remiſſion of the pain, while a ſenſe of weight and an anxiety ſtill remain.

When an abſceſs has been formed, the frequency of the pulſe is at firſt abated; but ſoon after it is again increaſed, with frequent cold ſhiverings, and with marked exacerbations in the afternoon and evening, followed by night ſweatings, and other ſymptoms of hectic fever. Theſe at length prove fatal, unleſs the abſceſs open into the cavity of the ſtomach, the pus be evacuated by vomiting, and the ulcer ſoon healed.

CCCLXXXI.

The tendency to gangrene may be ſuſpected from the violence of the ſymptoms not yielding to the remedies employed during the firſt days of the diſeaſe; and that a gangrene has already begun, may be known from the ſudden remiſſion of the pain, while the frequency of the pulſe continues, and, at the ſame time, becomes weaker, accompanied with other marks of the increaſing debility of the whole ſyſtem.

CCCLXXXII.

It appears, from the diſſection of dead bodies, that the ſtomach very often has been affected with inflammation, when the characteriſtic ſymptoms of it had not appeared; and therefore we cannot lay down any general rules for the cure of this diſeaſe.

CCCLXXXIII.

It is only in the caſe of phlegmonic inflammation, as characteriſed in (CCCLXXVI.), that we can adviſe the cure or reſolution to be attempted by large and repeated bleedings employed early in the diſeaſe; and from theſe we are not to be deterred by the ſmallneſs of the pulſe; for, after bleeding, it commonly becomes fuller and ſofter. After bleeding, a bliſter ought to be applied to the region of the ſtomach, and the cure will be aſſiſted by fomentations of the whole abdomen, and by frequent emollient and laxative glyſters.

CCCLXXXIV.

The irritability of the ſtomach, in this diſeaſe, will admit of no internal medicines being thrown into it; and, if any can be ſuppoſed neceſſary, they muſt be exhibited in glyſters. The giving of drink may be tried; but it ought to be of the very mildeſt kind, and in very ſmall quantities at a time.

CCCLXXXV.

Opiates, in whatever manner exhibited, are very hurtful during the firſt days of the diſeaſe; but, when the violence of the diſeaſe ſhall have abated, and when the violence of the pain and vomiting recur at intervals only, opiates given in glyſters may be cautiouſly tried, and ſometimes have been employed with advantage.

CCCLXXXVI.

A tendency to ſuppuration in this diſeaſe is to be obviated by the means juſt now propoſed. After a certain period, it cannot be prevented by any means whatever; and, when actually begun, muſt be left to nature; the only thing that can be done by art, being to avoid all irritation.

CCCLXXXVII.

A tendency to gangrene is to be obviated only by the ſame means employed early in the diſeaſe; and, when it does actually ſupervene, admits of no remedy.

CCCLXXXVIII.

Eryſipelatous inflammations of the ſtomach, are more frequent than thoſe of the phlegmonic kind. It appears, at leaſt, from diſſections, that the ſtomach has often been affected with inflammation, when neither pain or pyrexia had before given any notice of it; and ſuch we judge to have been chiefly of the eryſipelatous kind. This kind of inflammation alſo, is eſpecially to be expected from acrimony of any kind applied to the ſtomach, and would certainly occur more frequently from ſuch a cauſe, were not the interior ſurface of this organ commonly defended by mucus exuding in large quantity from the numerous follicles placed immediately under the villous coat. On many occaſions, however, the exudation of mucus is prevented, or the liquid poured out is of a leſs viſcid kind, ſo as to be leſs fitted to defend the ſubjacent nerves; and it is in ſuch caſes that acrid matters may readily produce an eryſipelatous affection of the ſtomach.

CCCLXXXIX.

From what has been ſaid, it muſt appear, that an eryſipelatous inflammation of the ſtomach may frequently occur, but will not always diſcover itſelf, as it ſometimes takes place without pyrexia, pain, or vomiting.

CCCXC.

There are caſes, however, in which it may be diſcovered. The affection of the ſtomach ſometimes ſpreads into the oeſophagus, and appears in the pharynx, and on the whole internal ſurface of the mouth. When, therefore, an eryſipelatous inflammation affects the mouth and fauces, and there ſhall be at the ſame time in the ſtomach an unuſual ſenſibility to all acrids, and alſo a frequent vomiting, there can be little doubt of the ſtomach's being affected with the ſame inflammation that has appeared in the fauces. Even when no inflammation appears in the fauces, if ſome degree of pain be felt in the ſtomach, if there be a want of appetite, an anxiety, and frequent vomiting, an unuſual ſenſibility with reſpect to acrids, ſome thirſt, and frequency of pulſe, there will then be room to ſuſpect an inflammation of the ſtomach; and we have known ſuch ſymptoms, after ſome time, diſcover their cauſe more clearly by the inflammation's appearing in the fauces or mouth.

Eryſipelatous inflammation is often diſpoſed to ſpread from one place to another on the ſame ſurface, and, in doing ſo, to leave the place it had at firſt occupied.

Thus, we have known ſuch an inflammation ſpread ſucceſſively along the whole length of the alimentary canal, occaſioning in the inteſtines diarrhoea, and in the ſtomach vomitings, the diarrhoea ceaſing when the vomitings came on, and the vomitings on the coming on of the diarrhoea.

CCCXCI.

When an eryſipelatous inflammation of the ſtomach is diſcovered, it is to be treated differently according to the difference of its cauſes and ſymptoms.

When it is owing to acrid matters taken in by the mouth, and theſe may be ſuppoſed ſtill preſent in the ſtomach, they are to be waſhed out by throwing in a large quantity of warm and mild liquids, and by exciting vomiting. At the ſame time, if the nature of the acrimony and its proper corrector be known, this ſhould be thrown in; or, if a ſpecific corrector be not known, ſome general demulcents ſhould be employed.

CCCXCII.

Theſe meaſures, however, are more ſuited to prevent than to cure the inflammation, after it has taken place. When this laſt may be ſuppoſed to be the caſe, if it be attended with a ſenſe of heat, with pain and pyrexia, according to the degree of theſe ſymptoms, the meaſures propoſed in (CCCLXXXIII. *et ſeq.*) are to be more or leſs employed.

CCCXCIII.

When an eryſipelatous inflammation of the ſtomach has ariſen from internal cauſes, if pain and pyrexia accompany the diſeaſe in perſons not otherwiſe weakened, ſome bleeding may be employed; but, as the affection often ariſes in putrid diſeaſes, and in convaleſcents from fever, in ſuch caſes, bleeding is not admiſſible, all that can be done being to avoid irritation, and to throw into the ſtomach what quantity of acids, and of aceſcent aliments, it ſhall be found to bear. In ſome conditions of the body, in which this diſeaſe ariſes, the Peruvian bark and bitters may ſeem to be indicated; but an eryſipelatous ſtate of the ſtomach does not commonly allow of them.

CHAP. VIII.

OF THE ENTERITIS,

OR

INFLAMMATION OF THE INTESTINES.

CCCXCIV.

The inflammation of the inteſtines, like that of the ſtomach, may be either phlegmonic, or eryſipelatous; but, on the ſubject of the latter, I have nothing to add to what I have ſaid in the laſt chapter; and ſhall here therefore treat of the phlegmonic inflammation only.

CCCXCV.

This inflammation may be known to be preſent by a fixed pain in the abdomen, attended with a pyrexia, coſtiveneſs, and vomiting. Practical writers mention the pain in this caſe as felt in different parts of the abdomen, according to the different ſeat of the inflammation ; and ſo indeed it ſometimes happens, but very often the pain ſpreads over the whole belly, and is felt more eſpecially about the navel.

CCCXCVI.

The enteritis and gaſtritis ariſe from like cauſes ; but the former, more readily than the latter, from cold applied to the lower extremities, or to the belly itſelf. The enteritis has likewiſe its peculiar cauſes, as ſupervening upon the ſpaſmodic colic, incarcerated hernia, and volvulus.

CCCXCVII.

Inflammations of the inteſtines have the ſame terminations as thoſe of the ſtomach, and, in both caſes, the ſeveral tendencies are to be diſcovered by the ſame ſymptoms (CCCLXXIX. CCCLXXX. CCCLXXXI.)

CCCXCVIII.

The cure of the enteritis is, in general, the ſame with that of the gaſtritis (CCCLXXXIII. *et ſeq.*); but, in the former, there is commonly more acceſs to the introduction of liquids, of acid, aceſcent, and other cooling remedies, and even of laxatives; but, as a vomiting ſo frequently attends the enteritis, care muſt be taken not to excite that vomiting by either the quantity or the quality of any thing thrown into the ſtomach.

CCCXCIX.

Under the title of *Enteritis*, it has been common with practical writers to treat of the remedies proper for the colic, and its higher degree, named *Ileus*; but, though it be true that the enteritis and colic frequently accompany each other, we ſtill hold them to be diſtinct diſeaſes, to be often occurring ſeparately, and accordingly to require and admit of different remedies. We ſhall therefore delay ſpeaking of the remedies proper for the colic till we ſhall come to treat of this diſeaſe in its place.

CCCC.

What occurs to be ſaid with reſpect to the ſuppuration, or gangrene, occurring in the enteritis, may be ſufficiently underſtood from what has been ſaid on the ſame ſubjects, with reſpect to the gaſtritis.

CHAP. X.

OF THE HEPATITIS,

OR

INFLAMMATION OF THE LIVER.

CCCCI.

The inflammation of the liver ſeems to be of two kinds, the one acute, the other chronic.

CCCCII.

The acute is attended with pungent pain, conſiderable pyrexia, a frequent, ſtrong, and hard pulſe, and high coloured urine.

CCCCIII.

The chronic hepatitis very often exhibits none of theſe ſymptoms, (CCCCII.) and we only diſcover it to have happened by our finding large abſceſſes in the liver, which are preſumed to be the effect of ſome degree of previous inflammation. As this chronic inflammation is not to be certainly known, and therefore does not lead to any certain practice, we omit treating of it here, and ſhall only treat of what relates to the acute ſpecies of the hepatitis.

CCCCIV.

The acute hepatitis may be known by a pain more or leſs acute in the right hypochondrium, increaſed by preſſing upon the part. The pain is very often in ſuch a part of the ſide as to make it appear as that of a pleuriſy; and frequently, like that, is increaſed on inſpiration. The diſeaſe is ſometimes alſo attended with a cough, which is commonly dry, but ſometimes humid. When the pain thus reſembles that of a pleuriſy, the patient cannot lie eaſily except upon the ſide affected. In every kind of acute hepatitis, the pain is often extended to the clavicle, and to the top of the ſhoulder. The diſeaſe is attended ſometimes with hiccup, and ſometimes with vomiting. Many practical writers have mentioned the jaundice, or a yellow colour of the ſkin and eyes, as a very conſtant ſymptom of the hepatitis; but experience hath ſhown, that the diſeaſe may often occur without any ſuch ſymptom.

CCCCV.

The remote cauſes of hepatitis are not always to be diſcerned, and many have been aſſigned on a very uncertain foundation. It is to be obſerved, that, in many caſes of pneumonic inflammation, the liver appears conſiderably enlarged, and ſometimes the pneumonic inflammation is joined with the hepatitis.

CCCCVI.

It has been ſuppoſed that the hepatitis may be an affection either of the extremities of the hepatic artery, or thoſe of the vena portarum; but of the laſt ſuppoſition there is neither evidence nor probability.

CCCCVII.

It ſeems probable that the acute hepatitis is always an affection of the external membrane of the liver, and that the parenchymatic is of the chronic kind. The acute diſeaſe may be ſeated either on the convex or on the concave ſurface of the liver. In the former caſe, a more pungent pain and hiccup may be produced, and the reſpiration is more conſiderably affected. In the latter, there occurs leſs pain, and a vomiting is produced, commonly by ſome inflammation communicated to the ſtomach. The inflammation of the concave ſurface of the liver may be readily communicated to the gall-bladder and biliary ducts; and this perhaps is the only caſe of idiopathic hepatitis attended with jaundice.

CCCCXVIII.

The hepatitis, like other inflammations, may end by reſolution, ſuppuration, or gangrene; and the tendency to the one or the other of theſe events may be known from what has been delivered above (CCXLIX. CCL. CCLI. CCLV. CCLVI. CCLVII. CCCLXXIX. CCCLXXX. CCCLXXXI.)

CCCCIX.

The reſolution of hepatitis is often the conſequence of, or is attended with evacuations of different kinds. A hemorrhagy ſometimes from the noſe, and ſometimes from the haemorrhoidal veſſels, gives a ſolution of the diſeaſe. Sometimes a bilious diarrhoea contributes to the ſame event; and the reſolution of the hepatitis, as of the other inflammations, is attended with ſweating, and with an evacuation of urine, depoſiting a copious ſediment. Can this diſeaſe be reſolved by expectoration? It would ſeem to be ſometimes cured by an eryſipelas appearing in ſome external part.

CCCCX.

When this diſeaſe has ended in ſuppuration, the pus collected may be diſcharged by the biliary ducts; or, if the ſuppurated part does not any where adhere cloſely to the neighbouring parts, the pus may be diſcharged into the cavity of the abdomen; but if, during the firſt ſtate of inflammation, the affected part of the liver ſhall have formed a cloſe adheſion to ſome of the neighbouring parts, the diſcharge of the pus after ſuppuration may be various, according to the different ſeat of the abſceſs. When ſeated on the convex part of the liver, if the adheſion be to the peritonaeum lining the common teguments, the pus may make its way through theſe, and be diſcharged outwardly; or, if the adheſion ſhall have been to the diaphragm, the pus may penetrate through this, and into the cavity of the lungs; and through this may be diſcharged by coughing. When the abſceſs of the liver is ſeated on its concave part, in conſequence of adheſions, the pus may be diſcharged into the ſtomach or inteſtines; and into theſe laſt, either directly, or by the intervention of the biliary ducts.

CCCCXI.

The prognoſtics in this diſeaſe are eſtabliſhed upon the general principles relating to inflammation, upon the particular circumſtances of the liver, and upon the particular ſtate of its inflammation.

CCCCXII.

The cure of this diſeaſe muſt proceed upon the general plan, by bleeding, more or leſs, according to the urgency of pain and pyrexia; by the application of bliſters; by fomentations of the external parts in the uſual manner, and of the internal parts by frequent emollient glyſters; by frequently opening the belly by means of gentle laxatives; and by diluent and refrigerant remedies.

CCCCXIII.

When a ſuppuration has been formed, and the abſceſs points outwardly, the part muſt be opened, the pus evacuated, and the ulcer healed, according to the ordinary rules for cleanſing and healing ſuch abſceſſes and ulcers.

CCCCXIV.

We might here conſider the ſplenitis, or inflammation of the ſpleen. It does not, however, ſeem neceſſary, becauſe the diſeaſe very ſeldom occurs. When it does, it may be readily known by the character given in our Noſology; and its various event, as well as the practice it requires, may be underſtood from what has been ſaid above on the inflammations of the other abdominal viſcera.

CHAP. X.

OF THE NEPHRITIS,

OR,

INFLAMMATION OF THE KIDNEYS.

CCCCXV.

This diſeaſe, like other internal inflammations, is always attended with pyrexia, and is eſpecially known from the region of the kidney being affected by pain, commonly obtuſe, ſometimes pungent. This pain is not increaſed by the motion of the trunk of the body ſo much as a pain of the rheumatic kind affecting the ſame region. The pain of the nephritis may be often diſtinguiſhed by its ſhooting along the courſe of the ureter, and is frequently attended with a drawing up of the teſticle, and with a numbneſs of the limb on the ſide affected; although, indeed, theſe ſymptoms moſt commonly attend the inflammation ariſing from a calculus in the kidney or in the ureter. The nephritis is almoſt conſtantly attended with frequent vomiting, and often with coſtiveneſs and colic pains. The ſtate of the urine is commonly changed; it is moſt commonly of a deep red colour, is voided frequently, and in a ſmall quantity at a time. In more violent caſes, the urine is ſometimes colourleſs.

CCCCXVI.

The remote cauſes of this diſeaſe may be various; as external contuſion; violent or long continued riding; ſtrains of the muſcles of the back incumbent on the kidneys; various acrids in the courſe of the circulation conveyed to the kidney; and perhaps ſome other internal cauſes not yet well known. The moſt frequent is that of calculous matter obſtructing the tubuli uriniferi, or calculi formed in the pelvis of the kidneys, and either ſticking there, or fallen into the ureter.

CCCCXVII.

The various event of this diſeaſe may be underſtood from what has been delivered on the ſubject of other inflammations.

CCCCXVIII.

Writers, in treating of the cure of nephritis, have commonly at the ſame time delivered the cure of the Calculus renalis; but, though this may often produce nephritis, it is to be conſidered as a diſtinct and ſeparate diſeaſe; and the treatment of it muſt be reſerved to its proper place. Here we ſhall treat of the cure of the nephritis vera, or idiopathica only.

CCCCXIX.

The cure of this proceeds upon the general plan, by bleeding, external fomentation, frequent emollient glyſters, antiphlogiſtic purgatives, and by the free uſe of mild and demulcent liquids. The uſe of bliſters is hardly admiſſible, or, at leaſt, will require great care to avoid any conſiderable abſorption of the cantharides.

CCCCXX.

The cyſtitis, or inflammation of the bladder, is ſeldom a primary diſeaſe, and is therefore not to be treated of here. The treatment of it, ſo far as neceſſary to be explained, may be readily underſtood from what has been already delivered.

CCCCXXI.

Of the viſceral inflammations, there remains to be conſidered the inflammation of the uterus; but we omit it here, becauſe the conſideration of it cannot be ſeparated from that of the diſeaſes of child-bearing women.

CHAP. XI.

OF THE RHEUMATISM.

CCCCXXII.

Of this diſeaſe there are two ſpecies, the one named the acute, the other the chronic rheumatiſm.

CCCCXXIII.

It is the acute rheumatiſm which eſpecially belongs to this place, as, from its cauſes, ſymptoms, and methods of cure, it will appear to be a ſpecies of phlegmaſia or inflammation.

CCCCXXIV.

This diſeaſe is frequent in cold, and more uncommon in warm climates. It appears moſt frequently in autumn and ſpring, leſs frequently in winter, while the froſt is conſtant, and very ſeldom during the heat of ſummer. It may occur, however, at any ſeaſon, if viciſſitudes of heat and cold be for the time frequent.

CCCCXXV.

For the moſt part, the acute rheumatiſm ariſes from the application of cold to the body when any how unuſually warm; or when the cold is applied to one part of the body, whilſt the other parts are kept warm; or, laſtly, when the application of the cold is long continued, as it is when wet or moiſt clothes are applied to any part of the body.

CCCCXXVI.

Theſe cauſes may affect perſons of all ages; but the rheumatiſm ſeldom appears either in very young or in elderly perſons, and moſt commonly occurs from the age of puberty to that of thirty-five years.

CCCCXXVII.

Theſe cauſes (CCCCXXV.) may alſo affect perſons of any conſtitution; but they moſt commonly affect thoſe of a ſanguine temperament.

CCCCXXVIII.

This diſeaſe is particularly diſtinguiſhed by pains affecting the joints, for the moſt part the joints alone, but ſometimes affecting alſo the muſcular parts. Very often the pains ſhoot along the courſe of the muſcles, from one joint to another, and are always much increaſed by the action of the muſcles belonging to the joint, or joints affected.

CCCCXXIX.

CCCCXXIX.

The larger joints are moſt frequently affected, ſuch as the hip joint and knees of the lower, and the ſhoulders and elbows of the upper extremities. The ankles and wriſts are alſo frequently affected; but the ſmaller joints, ſuch as thoſe of the toes or fingers, ſeldom ſuffer.

CCCCXXX.

This diſeaſe, although ſometimes confined to one part of the body only, yet very often affects many parts of it; and then it begins with a cold ſtage, which is immediately ſucceeded by the other ſymptoms of pyrexia, and particularly by a frequent, full, and hard pulſe. Sometimes the pyrexia is formed before any pains are perceived, but more commonly pains are felt in particular parts, before any ſymptoms of pyrexia appear.

CCCCXXXI.

When no pyrexia is preſent, the pain may be confined to one joint only; but, when any conſiderable pyrexia is preſent, although the pain may be chiefly in one joint, yet it ſeldom happens but that the pains affect ſeveral joints, often at the very ſame time, but for the moſt part ſhifting their place, and, having abated in one joint, become more violent in another. They do not commonly remain long in the ſame joint, but frequently ſhift from one to another, and ſometimes return to joints formerly affected; and in this manner the diſeaſe often continues for a long time.

CCCCXXXII.

The pyrexia attending this diſeaſe has an exacerbation every evening, and is moſt conſiderable during the night, when the pains alſo become more violent; and it is at the ſame time that the pains ſhift their place from one joint to another. The pains ſeem to be alſo increaſed during the night, by the body being covered more cloſely, and kept warmer.

CCCCXXXIII.

A joint, after having been for ſome time affected with pain, commonly becomes affected alſo with ſome redneſs and ſwelling, which is painful to the touch. It ſeldom happens, that a ſwelling coming on does not alleviate the pain, which had been before in the joint; but the ſwelling does not always take off the pain entirely, nor ſecure the joint againſt a return of it.

CCCCXXXIV.

This diſeaſe is commonly attended with ſome ſweating, which occurs early in the courſe of the diſeaſe, but is ſeldom free or copious, and ſeldom either relieves from the pains, or proves critical.

CCCCXXXV.

In the courſe of this diſeaſe the urine is high coloured, and in the beginning without ſediment; but, as the diſeaſe advances, and the pyrexia has more conſiderable remiſſions, the urine depoſits a lateritious ſediment. This, however, does not prove entirely critical; for the diſeaſe often continues long after ſuch a ſediment has appeared in the urine.

CCCCXXXVI.

When blood is drawn in this diſeaſe, it always exhibits the appearance mentioned (CCXXXVII.)

CCCCXXXVII.

The acute rheumatiſm, though it has ſo much of the nature of the other phlegmaſiae, differs from all theſe hitherto mentioned, in this, that it is not liable to terminate in ſuppuration. This almoſt never happens in rheumatiſm; but the diſeaſe ſometimes produces effuſions of a tranſparent gelatinous fluid into the ſheaths of the tendons. If we may be allowed to ſuppoſe that ſuch effuſions are frequent, it muſt alſo happen, that the effuſed fluid is commonly re-abſorbed; for it has ſeldom happened, and never, indeed, to my obſervation, that conſiderable or permanent tumours have been produced, or ſuch as required to be opened, and to have the contained fluid evacuated. Such tumours have indeed occurred to others, and the opening made in them has produced ulcers difficult to heal. Vide Storck. Ann, Med. II.

CCCCXXXVIII.

In the circumſtances mentioned from (CCCCXXVIII. to CCCCXXXV.) the diſeaſe often continues for ſeveral weeks. It ſeldom, however, proves fatal; and it rarely happens that the pyrexia continues to be conſiderable for more than two or three weeks. While the pyrexia abates in its violence, if the pains of the joints continue, they are leſs violent, more limited in their place, being confined commonly to one or a few joints only, and are leſs ready to change their place.

CCCCXXXIX.

When the pyrexia attending rheumatiſm has entirely ceaſed, when the ſwelling, and particularly the redneſs of the joints, are entirely gone, but there are pains which ſtill continue to affect certain joints, which remain ſtiff, which feel uneaſy upon motion, on changes of weather, or in the night-time only, the diſeaſe is named the Chronic Rheumatiſm, as it very often continues for a long time. As the chronic is commonly the ſequel of the acute rheumatiſm, we think it proper to treat of the former alſo in this place.

CCCCXL.

The limits between the acute and chronic rheumatiſms, are not always exactly marked.

When the pains are ſtill ready to ſhift their place, when they are eſpecially ſevere in the night-time, when, at the ſame time, they are attended with ſome degree of pyrexia, and with ſome ſwelling, and eſpecially ſome redneſs of the joints; the diſeaſe is to be conſidered as partaking of the nature of the acute rheumatiſm.

But, when there is no degree of pyrexia remaining, when the pained joints are without redneſs, when they are cold and ſtiff,. when they cannot eaſily be made to ſweat, or when, while a free and warm ſweat is brought out on the reſt of the body, it is only clammy and cold on the pained joints; and when, further, the pains of theſe are increaſed by cold, and relieved by heat applied to them, the caſe is to be conſidered as that of a purely chronic rheumatiſm.

CCCCXLI.

The chronic rheumatiſm may affect different joints, but is eſpecially ready to affect thoſe joints which are ſurrounded with many muſcles, and thoſe of which the muſcles are are employed in the moſt conſtant and vigorous exertions. Such is the caſe of the vertebrae of the loins, the affection of which is named Lumbago, or of the hip-joint, when the diſeaſe is named Iſchias, or Sciatica.

CCCCXLII.

Violent ſtrains and ſpaſms occurring on ſudden, and ſomewhat violent exertions, bring on rheumatic affections, which at firſt partake of the acute, but very ſoon change into the nature of the chronic rheumatiſm. Such are frequently the lumbago, and thoſe other affections which ſeem to be more ſeated in the muſcles, than in the joints, as the torticolis or obſtipitas catarrhalis of SAUVAGES, and the pleuritis ſpuria, or the pleurodyne plethorica and rheumatica of the ſame author.

CCCCXLIII.

We have thus delivered the hiſtory of rheumatiſm, and ſuppoſe that, from what has been ſaid, the remote cauſes, the diagnoſis, and prognoſis of the diſeaſe, may be underſtood. The diſtinction of the rheumatic pains from thoſe reſembling them, which occur in the ſiphylis and ſcurvy, will be obvious, either from the ſeat of thoſe pains, or from the concomitant ſymptoms peculiar to theſe diſeaſes. The diſtinction of rheumatiſm from gout will be more fully underſtood, from what is to be delivered in the following chapter.

CCCCXLIV.

With reſpect to the proximate cauſe of rheumatiſm, there have been various opinions. It has been imputed to a peculiar acrimony; of which, however, I can find no evidence; and the conſideration of the remote cauſes, the ſymptoms, and cure of the diſeaſe, renders the ſuppoſition very improbable. The cauſe of an Iſchias nervoſa aſſigned by COTUNNIUS, appears to me hypothetical, and is not ſupported by either the phaenomena or method of cure. That, however, a diſeaſe of a rheumatic nature may be occaſioned by an acrid matter applied to the nerves, is evident from the toothach, a rheumatic affection generally ariſing from a carious tooth.

That pains reſembling thoſe of rheumatiſm may ariſe from deep ſeated ſuppurations, we know from ſome caſes depending on ſuch a cauſe, and which, in their ſymptoms, reſemble the lumbago or iſchias. We believe, however, that, by a proper attention, theſe caſes depending on ſuppuration, may be commonly diſtinguiſhed from the genuine caſes of lumbago and iſchias; and, from what is ſaid in (CCCCXXXVII.) we judge it to be at leaſt improbable, that a genuine lumbago or iſchias ſhould ever end in ſuppuration.

CCCCXLV.

The proximate cauſe of rheumatiſm has been by many ſuppoſed to be a lentor of the fluids obſtructing the veſſels of the part; but the ſame conſideration as in (CCXLI.) 2, 3, 4, and 5, will apply equally here for rejecting the ſuppoſition of a lentor.

CCCCXLVI.

While we cannot, therefore, find either evidence or reaſon for ſuppoſing that the rheumatiſm depends upon any change in the ſtate of the fluids, we muſt conclude that the proximate cauſe of acute rheumatiſm, is the ſame with that of other inflammations not depending upon a direct ſtimulus.

CCCCXLVII.

In the caſe of rheumatiſm we ſuppoſe, that the moſt common remote cauſe of it, that is, cold applied, operates eſpecially on the veſſels of the joints, theſe being leſs covered by a cellular texture than thoſe of the intermediate parts of the limbs. We ſuppoſe farther, that the application of cold produces a conſtriction of the extreme veſſels, and, at the ſame time, an increaſe of tone or phlogiſtic diatheſis, in the courſe of them, from which ariſes an increaſed impetus of the blood, and, at the ſame time, a reſiſtance to the free paſſage of it, and conſequently inflammation and pain. Further, we ſuppoſe, that the reſiſtance formed, excites the vis medicatrix to a further increaſe of the impetus of the blood ; and, to ſupport this, a cold ſtage ariſes, a ſpaſm is formed, and a pyrexia and phlogiſtic diatheſis are produced in the whole ſyſtem.

CCCCXLVIII.

According to this explanation, the cauſe of acute rheumatiſm appears to be exactly analagous to that of the inflammations depending on an increaſed afflux of blood to a part, while it is expoſed to the action of cold.

But there ſeems to be further, in the caſe of rheumatiſm, ſome peculiar affection of the fibres of the muſcles. Theſe fibres ſeem to be under ſome degree of rigidity, and therefore leſs eaſily admit of motion, and are pained upon the exertions of it.

It is alſo an affection of theſe fibres which gives an opportunity to the propagation of pains from one joint to another, along the courſe of the muſcles, and which pains are more ſeverely felt in the extremities of the muſcles terminating in the joints, becauſe, beyond theſe, the oſcillations are not propagated.

This affection of the muſcular fibres attending rheumatiſm, ſhews well why ſtrains and ſpaſms produce rheumatic affections; and, upon the whole, ſhews, that, with an inflammatory affection of the ſanguiferous ſyſtem, there is alſo in rheumatiſm a peculiar affection of the muſcular fibres, which has a conſiderable ſhare in producing the phenomena of the diſeaſe.

CCCCXLIX.

Having thus given our opinion of the proximate cauſe of rheumatiſm, we proceed to treat of the cure.

CCCCL.

Whatever difficulty may occur with reſpect to the explanation given (CCCCXLVII. CCCCXLVIII.) this remains certain, that in acute rheumatiſm, there is an inflammatory affection of the parts, and a phlogiſtic diatheſis in the whole ſyſtem, and upon theſe is founded the method of cure, which frequent experience has approved of.

CCCCLI.

The cure therefore requires, in the firſt place, an antiphlogiſtic regimen, and, particularly, a total abſtinence from animal food, and from all fermented or ſpiritous liquors; ſubſtituting a mild vegetable or milk diet, and the plentiful uſe of bland diluent drinks.

CCCCLII.

Upon the ſame principle (CCCCL.) blood-letting is the chief remedy of acute rheumatiſm. The blood is to be drawn in large quantity, and the bleeding is to be repeated in proportion to the frequency, fullneſs, and hardneſs of the pulſe, and the violence of the pain. For the moſt part, large and repeated bleeding, during the firſt days of the diſeaſe, ſeem to be neceſſary, and accordingly have been very much employed; but to this ſome bounds are to be ſet; for very profuſe bleedings occaſion a ſlow recovery, and, if not abſolutely effectual, are ready to produce a chronic rheumatiſm.

CCCCLIII.

To avoid that debility of the ſyſtem, which general bleedings are ready to occaſion, the urgent ſymptom of pain may be often relieved by topical bleedings, and, when any ſwelling and redneſs have come upon a joint, the pain of it may be very certainly relieved by ſuch bleedings; but, as the continuance of the diſeaſe ſeems to depend more upon the phlogiſtic diatheſis of the whole ſyſtem, than upon the affection of particular parts, ſo topical bleedings will not ſupply the place of the general bleedings propoſed above.

CCCCLIV.

To take off the phlogiſtic diatheſis prevailing in this diſeaſe, purging may be uſeful, if procured by medicines which do not ſtimulate the whole ſyſtem, ſuch as the neutral ſalts, and which have, in ſome meaſure, a refrigerant power. Purging, however, is not ſo powerful as bleeding, in removing phlogiſtic diatheſis; and, when the diſeaſe has become general and violent, frequent ſtools are inconvenient, and even hurtful, by the motion and pain which they occaſion.

CCCCLV.

In acute rheumatiſm, applications to the pained parts are of little ſervice. Fomentations, in the beginning of the diſeaſe, rather aggravate than relieve the pains. The rubefacients and camphire are more effectual in relieving the pains; but generally they only ſhift the pain from one part into another, and do not prove any cure of the general affection. Bliſtering alſo may be very effectual in removing the pain from a particular part; but will be of little uſe, except where the pains are much confined to one part.

CCCCLVI.

The ſeveral remedies mentioned from (CCCCLI. to CCCCLV.) moderate the violence of the diſeaſe, and ſometimes remove it entirely; but they ſometimes fail in this, and leave the cure imperfect. The attempting a cure by large and repeated bleedings, is attended with many inconveniences (ſee CXXXIX.); and the moſt effectual and ſafe method of curing this diſeaſe, is, after ſome general bleedings for taking off, or at leaſt diminiſhing the phlogiſtic diatheſis, to employ ſweating, conducted by the rules laid down CLXVII. and CLXVIII.

CCCCLVII.

Opiates, except where they are directed to procure ſweat, always prove hurtful in every ſtage of this diſeaſe.

CCCCLVIII.

The Peruvian bark has been ſuppoſed a remedy in ſome caſes of this diſeaſe; but we have ſeldom found it uſeful, and, in ſome caſes, hurtful. It appears to me to be fit in thoſe caſes only in which the phlogiſtic diatheſis is already much abated, and, at the ſame time, that the exacerbations of the diſeaſe are manifeſtly periodical, with conſiderable remiſſions interpoſed.

CCCCLIX.

Calomel, and ſome other preparations of mercury, have been recommended in the acute rheumatiſm; but I believe they are uſeful only in caſes approaching to the nature of the chronic.

CCCCLX.

Having now treated fully of the cure of the acute rheumatiſm, we proceed to treat of the cure of the chronic, which is ſo frequently a ſequel of the former.

CCCCLXI.

The phenomena of the purely chronic rheumatiſm mentioned in (CCCCXXXIX. and CCCCXL.) lead me to conclude, that its proximate cauſe is an atony, both of the blood-veſſels and of the muſcular fibres of the part affected, together with ſuch a degree of rigidity, and contraction in the latter, as frequently attend them in a ſtate of atony.

CCCCLXII.

Upon this view of the proximate cauſe, the general indication of cure muſt be to reſtore the activity and vigour of the vital principle in the part; and the remedies for this diſeaſe, which experience has approved of, are chiefly ſuch as are manifeſtly ſuited to the indication propoſed.

CCCCLXIII.

Theſe remedies are either external or internal.

جو ۱۴۹ The external are, the ſupporting the heat of the part, by keeping it conſtantly covered with flannel; the increaſing the heat of the part by external heat, applied either in a dry or in a humid form; the diligent uſe of the fleſh-bruſh, or other means of friction; the application of electricity in ſparks or ſhocks; the application of cold water by affuſion or immerſion; the application of eſſential oils of the moſt warm and penetrating kind; the application of ſalt brine; and, laſtly, the employment of exerciſe, either of the part itſelf, ſo far as it can eaſily bear; or by riding, or other mode of geſtation.

CCCCLXIV.

The internal remedies are, 1. Large doſes of eſſential oil drawn from reſinous ſubſtances, ſuch as turpentine; 2. Subſtances containing ſuch oils, as guaiac; 3. Volatile alkaline ſalts; 4. Theſe, or other medicines directed to procure ſweat, (CLXVIII.) and, laſtly, calomel, or other preparation of mercury, in ſmall doſes, continued for ſome time.

CCCCLXV.

Theſe (CCCCLXIII. and CCCCLXIV.) are the remedies ſucceſsfully employed in the purely chronic rheumatiſm; and there are ſtill others recommended, as bleeding, general and topical, burning, bliſtering, and iſſues; but theſe appear to me to be chiefly, perhaps only, uſeful when the diſeaſe ſtill partakes of the nature of acute rheumatiſm.

CHAP. XII.

OF THE GOUT.

CCCCLXVI.

The Gout, not only as it occurs in different perſons, but even as it occurs in the ſame perſon at different times, is a diſeaſe of ſuch various appearance, that it is difficult to render the hiſtory of it complete and exact, or to give a character of it that will univerſally apply. However, I ſhall endeavour to deſcribe the diſeaſe as it moſt commonly appears, and to mark the varieties of it as well as I can. From ſuch a hiſtory we expect that a general character may be given; and ſuch we think is the following, as given in the laſt edition of our Noſology:

GEN.

GEN. XXIII. PODAGRA.

Morbus haereditarius, oriens ſine cauſa externa evidente, ſed praeeunte plerumque ventriculi affectione inſolita; pyrexia; dolor ad articulum et plerumque pedis pollici, certe pedum et manuum juncturis, potiſſimum infeſtus; per intervalla revertens, et ſaepe cum ventriculi et internarum partium affectionibus alternans.

CCCCLXVII.

The Gout is generally a hereditary diſeaſe; but ſome perſons, without hereditary diſpoſition, ſeem to acquire it; and, in ſome, a hereditary diſpoſition may be counteracted by various cauſes. Theſe circumſtances may occaſion exceptions to our general poſition; but the facts ſupporting it are very numerous.

CCCCLXVIII.

This diſeaſe attacks the male ſex eſpecially; but it ſometimes, though more rarely, attacks alſo the female. The females liable to it are thoſe of the more robuſt and full habits; and it very often happens to ſuch before the menſtrual evacuation has ceaſed. I have found it occurring in ſeveral females, whoſe menſtrual evacuations were more abundant than uſual.

CCCCLXIX.

This diſeaſe ſeldom attacks Eunuchs; and, when it does, they ſeem to be thoſe who happen to be of a robuſt habit, to lead an indolent life, and to live very full.

CCCCLXX.

The gout attacks eſpecially men of robuſt and large bodies, men of large heads, of full and corpulent habits, and men whoſe ſkins are covered with a thicker *rete mucoſum*, which gives a coarſer ſurface.

CCCCLXXI.

If, with the antients, we might aſcertain, by certain terms, the temperaments of men, I would ſay, that the gout attacks eſpecially men of a *cholerico-ſanguine* temperament, and that it very ſeldom attacks the purely ſanguine or melancholic. It is, however, very difficult to treat this matter with due preciſion.

CCCCLXXII.

The gout ſeldom attacks perſons employed in conſtant bodily labour, or perſons who live much upon vegetable aliment.

CCCCLXXIII.

The gout does not commonly attack men, till after the age of five and thirty; and generally not till a ſtill later period. There are indeed inſtances of the gout occurring more early; but theſe are few, in compariſon of the numbers which agree with what we have given as the general rule. When the diſeaſe does appear early in life, it ſeems to be in thoſe in whom the hereditary diſpoſition is very ſtrong, and to whom the remote cauſes, to be hereafter mentioned, have been applied in a conſiderable degree.

CCCCLXXIV.

As the gout is a hereditary diſeaſe, and affects eſpecially men of a particular habit, its remote cauſes may be conſidered as prediſponent and occaſional.

CCCCLXXV.

The prediſponent cauſe, ſo far as expreſſed by external appearances, we have already marked; and phyſicians have been very confident in aſſigning the occaſional cauſes; but, in a diſeaſe depending ſo much upon a prediſpoſition, the aſſigning occaſional cauſes muſt be uncertain ; as, in the prediſpoſed, the occaſional cauſes may not always appear, and, in perſons not prediſpoſed, they may appear without effect. This uncertainty muſt particularly affect the caſe of the gout ; but I ſhall offer what appears to me moſt probable on the ſubject.

CCCCLXXVI.

The occaſional cauſes of the gout ſeem to be of two kinds. Firſt, thoſe which induce a plethoric ſtate of the body. Secondly, thoſe which, in plethoric habits, induce a ſtate of debility.

CCCCLXXVII.

Of the firſt kind are, a ſedentary indolent manner of life, and a full diet of animal food. Theſe circumſtances commonly precede the diſeaſe, and if there ſhould be any doubt as to their effects in producing it, the fact, however, will be rendered ſufficiently probable by what has been obſerved in (CCCCLXXII.)

CCCCLXXVIII.

Of the ſecond kind of occaſional cauſes which induce debility are, exceſs in venery; intemperance in the uſe of intoxicating liquors; indigeſtion produced either by the quantity or the quality of aliments; much application to ſtudy or buſineſs; night watching; exceſſive evacuations; the ceaſing of uſual labour; the ſudden change from a very full, to a very ſpare diet; the large uſe of acids and aceſcents; and, laſtly, cold applied to the lower extremities.

CCCCLXXIX.

The firſt (CCCCLXXVII.) ſeem to act by increaſing the prediſpoſition. The laſt (CCCCLXXVIIII.)

(CCCCLXXVIII.) are commonly the exciting cauſes, both of the firſt attacks, and of the repetitions of the diſeaſe.

CCCCLXXX.

It is an inflammatory affection of ſome of the joints which eſpecially conſtitutes what we call a paroxyſm of the gout. This ſometimes comes on ſuddenly, without any warning, but is generally preceded by ſeveral ſymptoms; ſuch as the ceaſing of a ſweating which the feet had been commonly affected with before; an unuſual coldneſs of the feet and legs; a frequent numbneſs, alternating with a ſenſe of prickling along the whole of the lower extremities; frequent cramps of the muſcles of the legs; and an unuſual turgeſcence of the veins.

CCCCLXXXI.

While theſe ſymptoms take place in the lower extremities, the whole body is affect-

ed

ted with ſome degree of torpor and languor, and the functions of the ſtomach, in particular, are more or leſs diſturbed. The appetite is diminiſhed, and flatulency, or other ſymptoms of indigeſtion, are felt. Theſe ſymptoms, and thoſe of (CCCCLXXX.) take place for ſeveral days, ſometimes for a week or two, before a paroxyſm comes on; but commonly, upon the day immediately preceding it, the appetite becomes greater than uſual.

CCCCLXXXII.

The circumſtances of paroxyſms are the following. They come on moſt commonly in the ſpring, and ſooner or later, according as the vernal heat ſucceeds ſooner or later to the winter's cold; and, perhaps, ſooner or later alſo, according as the body may happen to be more or leſs expoſed to viciſſitudes of heat and cold.

CCCCLXXXIII.

The attacks are ſometimes felt firſt in the evening, but more commonly about two or three o'clock of the morning. The paroxyſm begins with a pain affecting one foot, moſt commonly in the ball or firſt joint of the great toe, but ſometimes in other parts of the foot. With the coming on of this pain, there is commonly more or leſs of a cold ſhivering, which, as the pain increaſes, gradually ceaſes, and is ſucceeded by a hot ſtage of pyrexia, which continues for the ſame time with the pain itſelf. From the firſt attack, the pain becomes, by degrees, more violent, and continues in this ſtage with great reſtleſſneſs of the whole body, till next midnight, after which it gradually remits; and, after it has continued for twenty-four hours from the commencement of the firſt attack, it commonly ceaſes very entirely, and, with the coming on of a gentle ſweat, allows the patient to fall aſleep. The patient, upon coming out of this ſleep in the morning, finds the pained part affected with ſome redneſs and ſwelling, which, after having continued for ſome days, gradually abate.

CCCCLXXXIV.

When a paroxyſm has thus come on, although the violent pain after twenty-four hours be conſiderably abated, the patient is not entirely relieved from it. For ſome days he has every evening a return of more conſiderable pain and pyrexia, and which continue with more or leſs violence till morning. After continuing in this manner for ſeveral days, the diſeaſe ſometimes goes entirely off, not to return till after a long interval.

CCCCLXXXV.

When the diſeaſe, after having thus remained for ſome time in a joint, ceaſes very entirely, it generally leaves the perſon in very perfect health, enjoying greater eaſe and alacrity in the functions of both body and mind, than he had for a long time before experienced.

CCCCLXXXVI.

At the beginning of the diſeaſe, the returns of it are ſometimes only once in three or four years; but, as it advances, the intervals become ſhorter, and, at length, the attacks are annual; afterwards come twice each year, and at length recur ſeveral times during the whole courſe of autumn, winter, and ſpring; and as, when the fits are frequent, the paroxyſms become alſo longer, ſo, in the advanced ſtate of the diſeaſe, the patient is hardly ever tolerably free from it, except perhaps for two or three months in ſummer.

CCCCLXXXVII.

The progreſs of the diſeaſe is alſo marked by the parts which it affects. At firſt, it commonly affects one foot only, afterwards, every paroxyſm affects both feet, the one after the other; and, as the diſeaſe proceeds, it not only affects both feet once, but after having ceaſed in the foot which was ſecondly attacked, returns again into the firſt, and perhaps a ſecond time alſo into the other. Its changes of place are not only from one foot to another, but from the feet into other joints, eſpecially thoſe of the upper and lower extremities; ſo that there is hardly a joint of the body that, on one occaſion or other, is not affected. It ſometimes affects two different joints at the very ſame time, but more commonly, at any one time, it is ſevere in a ſingle joint only, and paſſes ſucceſſively from one joint to another; ſo that the patient's affliction is often protracted for a long time.

CCCCLXXXVIII.

When the diſeaſe has often returned, and the paroxyſms have become very frequent, the pains are commonly leſs violent than they were at firſt; but the patient is more affected with ſickneſs, and the other ſymptoms of the atonic gout, which ſhall be hereafter mentioned.

CCCCLXXXIX.

After the firſt paroxyſms of the diſeaſe, the joints which have been affected are entirely reſtored to their former ſuppleneſs and ſtrength; but, after the diſeaſe has recurred very often, the joints affected do neither ſo ſuddenly nor entirely recover their former ſtate, but continue weak and ſtiff, and theſe effects at length proceed to ſuch a degree, that the joints loſe their motion entirely.

CCCCXC.

In many perſons, but not in all, after the diſeaſe has frequently recurred, concretions of a chalky nature are formed upon the outſide of the joints, and for the moſt part immediately under the ſkin. The matter ſeems to be depoſited, at firſt, in a fluid form, afterwards becoming dry and firm. In their firm ſtate, theſe concretions are a friable earthy ſubſtance, very entirely ſoluble in acids. After they have been formed, they contribute, with other circumſtances, to deſtroy the motion of the joint.

CCCCXCI.

In moſt perſons who have laboured under the gout for many years, a nephritic affection comes on, and diſcovers itſelf by all the ſymptoms which uſually attend calculous concretions in the kidneys, and which we ſhall have occaſion to deſcribe in another place. All that is neceſſary to be obſerved here is, that the nephritic affection alternates with paroxyſms of the gout, and that the two affections, the nephritic and the gouty, are hardly ever preſent at the ſame time. This alſo may be obſerved, that children of gouty or nephritic parents, commonly inherit one or other of theſe diſeaſes; but which ever may have been the principal diſeaſe of the parent, ſome of the children have the one, and ſome the other. In ſome of them, the nephritic affection occurs alone, without any gout ſupervening; and this happens to be frequently the caſe of the female children of gouty parents.

CCCCXCII.

In the whole of the hiſtory already given, we have deſcribed the moſt common form of the diſeaſe, and which therefore, however diverſified in the progreſs of it, may be ſtill called the regular ſtate of the gout. Upon occaſion, however, the diſeaſe aſſumes different appearances; but, as we ſuppoſe the diſeaſe to depend always upon a certain diatheſis, or diſpoſition of the ſyſtem; ſo every appearance which we can perceive to depend upon that ſame diſpoſition, we ſtill conſider as a ſymptom and caſe of the gout. The principal circumſtance in what we term the *Regular Gout*, is the inflammatory affection of the joints; and, whatever ſymptoms we can perceive to be connected with, or to depend upon the diſpoſition which produces that inflammatory affection, but without its taking place, or being preſent at the ſame time, we name the *Irregular Gout.*

CCCCXCIII.

Of ſuch irregular gout there are three different ſtates, which we name the *atonic*, the *retrocedent*, and the *miſplaced* gout.

CCCCXCIV.

CCCCXCIV.

The firſt is when the gouty diatheſis prevails in the ſyſtem, but, from certain cauſes, does not produce the inflammatory affection of the joints. In this caſe, the morbid ſymptoms which appear, are chiefly affections of the ſtomach, ſuch as loſs of appetite, indigeſtion, and its various circumſtances of ſickneſs, nauſea, vomiting, flatulency, acid eructations, and pains in the region of the ſtomach. Theſe ſymptoms are frequently accompanied with pains and cramps in ſeveral parts of the trunk, and the upper extremities of the body, which are relieved by the diſcharge of wind from the ſtomach. Together with theſe affections of the ſtomach, there commonly occurs a coſtiveneſs; but ſometimes a looſeneſs, with colic pains. Theſe affections of the alimentary canal are often attended with all the ſymptoms of hypochondriaſis, as dejection of mind, a conſtant and anxious attention to the ſlighteſt feelings, an imaginary aggravation of theſe, and an apprehenſion of danger from them.

In the ſame atonic gout, the viſcera of the thorax alſo are ſometimes affected, and palpitations, faintings, and aſthma, occur.

In the head alſo, occur headachs, giddineſs, apoplectic and paralytic affections.

CCCCXCV.

When the ſeveral ſymptoms now mentioned, occur in habits having the marks of a gouty diſpoſition, this may be ſuſpected to have laid the foundation of them; and eſpecially, when, either in ſuch habits, a manifeſt tendency to the inflammatory affection has formerly appeared; or when the ſymptoms mentioned are intermixed with, and are relieved by, ſome degree of the inflammatory gout. In ſuch caſes there can be no doubt of conſidering the whole as a ſtate of the gout.

CCCCXCVI.

Another ſtate of the diſeaſe we name the *retrocedent* gout. This occurs when an inflammatory ſtate of the joints has, in the uſual manner, come on, but without ariſing to the ordinary degree of pain and inflammation, or, at leaſt, without theſe continuing for the uſual time, or without their receding gradually in the uſual manner; theſe affections of the joint ſuddenly and entirely ceaſe, while ſome internal part becomes affected. The internal part moſt commonly affected is the ſtomach, which then is affected with anxiety, ſickneſs, vomiting, or violent pain; but ſometimes the internal part is the heart, which gives occaſion to a ſyncope; ſometimes it is the lungs, which are affected with aſthma; and ſometimes it is the head, giving occaſion to apoplexy or palſy. In all theſe caſes there can be no doubt of the ſymptoms being all a part of the ſame diſeaſe, however different the affection may ſeem to be in the parts which it attacks.

CCCCXCVII.

The third ſtate of irregular gout, which we name the *miſplaced*, is when the gouty diatheſis, inſtead of producing the inflammatory affection of the joints, produces an inflammatory affection of ſome internal part, and which appears from the ſame ſymptoms that attend the inflammation of thoſe parts, ariſing from other cauſes.

Whether the gouty diatheſis does ever produce ſuch inflammation of the internal parts, without having firſt produced it in the joints, or, if the inflammation of the internal part be always a tranſlation from the joints previouſly affected, we dare not determine; but, even ſuppoſing the latter to be always the caſe, we think the difference of the affection of the internal part muſt ſtill diſtinguiſh the miſplaced from what we have named the retrocedent gout.

CCCCXCVIII.

What internal parts may be affected by the miſplaced gout, I cannot preciſely ſay, becauſe I have never met with any caſes of the miſplaced gout in my practice ; and I find no caſes of it diſtinctly marked by practical writers, except that of a pneumonic inflammation.

CCCCXCIX.

There are two caſes of a tranſlated gout ; the one of which is an affection of the neck of the bladder, producing pain, ſtrangury, and a catarrhus veſicae : The other is an affection of the rectum, ſometimes by pain alone in that part, and ſometimes by hemorrhoidal ſymptoms. In gouty perſons, I have known ſuch affections alternate with inflammatory affections of the joints : But whether to refer thoſe affections to the retrocedent, or to the miſplaced gout, I will not preſume to determine.

D.

From the hiſtory which I have now delivered of the gout, I think it may be diſcerned under all its various appearances. It is, however, commonly ſuppoſed, that there are caſes in which it may be difficult to diſtinguiſh gout from rheumatiſm, and it is poſſible there may be ſuch caſes; but, for the moſt part, the two diſeaſes may be diſtinguiſhed with great certainty, by obſerving the prediſpoſition, the antecedents, the parts affected, the recurrences of the diſeaſe, and its connection with the ſyſtem; which circumſtances, for the moſt part, appear very differently in the two diſeaſes.

DI.

With reſpect to the gout, our next buſineſs is to inveſtigate its proximate cauſe, which muſt be a difficult taſk, and I attempt it with ſome diffidence.

DII.

Upon this ſubject, the opinion which has generally prevailed is, that the gout depends upon a certain morbific matter, always preſent in the body; and that this matter, by certain cauſes, thrown upon the joints or other parts, produces the ſeveral phenomena of the diſeaſe.

DIII.

This doctrine, however antient and general, appears to me very doubtful; for,

Firſt, there is no direct evidence of any morbific matter being preſent in perſons diſpoſed to the gout. There are no experiments or obſervations which ſhew that the blood, or other humours of gouty perſons, are in any reſpect different from thoſe of other perſons. Previous to attacks of the gout, there appear no marks of any morbid ſtate of the fluids; for the diſeaſe generally attacks thoſe perſons who have enjoyed the moſt perfect health, and appear to be in that ſtate when the diſeaſe comes on. At a certain period of the diſeaſe, a peculiar matter indeed appears in gouty perſons, (CCCCXC.); but this, which does not appear in every inſtance, and which appears only after the diſeaſe has ſubſiſted for a long time, ſeems manifeſtly to be the effect, not the cauſe of the diſeaſe. Further, though there be certain acrids which, taken into the body, ſeem to excite the gout, (CCCCLXXVIII.) it is probable that theſe acrids operate otherwiſe in exciting the diſeaſe, than by affording the material cauſe of it. In general, therefore, there is no proof of any morbific matter being the cauſe of the gout.

Secondly, the ſuppoſitions concerning the particular nature of the matter producing the gout, have been ſo various, and ſo contradictory to each other, as to allow us to conclude, that there is truly no proof of the exiſtence of any of them. With reſpect to many of theſe ſuppoſitions, they are ſo inconſiſtent with chemical philoſophy, and with the laws of the animal oeconomy, that they muſt be entirely rejected.

Thirdly, the ſuppoſition of a morbific matter as the cauſe, is not conſiſtent with the phenomena of the diſeaſe, particularly with its frequent and ſudden tranſlations from one part to another.

Fourthly, The ſuppoſition is further rendered improbable by this, that, if a morbific matter did exiſt, its operation ſhould be ſimilar in the ſeveral parts which it attacks; whereas it ſeems to be very different, being ſtimulant, and exciting inflammation in the joints, but ſedative, and deſtroying the tone in the ſtomach: Which, upon the ſuppoſition of particular matter acting in both caſes, is not to be explained by any difference in the part affected.

Fifthly, Some facts, alledged in proof of a morbific matter, are not ſufficiently confirmed, ſuch as thoſe which would prove the diſeaſe to be contagious. There is, however, no proper evidence of this, the facts given being not only few; but exceptionable, and the negative obſervations are innumerable.

Sixthly, Some arguments brought in favour of a morbific matter, are founded upon a miſtaken explanation. The diſeaſe has been ſuppoſed to depend upon a morbific matter, becauſe it is hereditary. But the inference is not juſt; for moſt hereditary diſeaſes do not depend upon any morbific matter, but upon a particular conformation of the ſtructure of the body; tranſmitted from the parent to the offspring; and this laſt appears to be particularly the caſe in the gout. It may be alſo obſerved, that hereditary diſeaſes, depending upon a morbific matter, appear always much more early in life than the gout commonly does.

Seventhly, The ſuppoſition of a morbific matter being the cauſe of the gout, has been hitherto uſeleſs, as it has not ſuggeſted any ſucceſsful method of cure. Particular ſuppoſitions have often corrupted the practice, and have frequently led from thoſe views which might be uſeful, and from that practice which experience had approved. Further, though the ſuppoſition of a morbific matter has been generally received, it has been as generally neglected in practice. When the gout has affected the ſtomach, nobody thinks of correcting the matter ſuppoſed to be preſent there, but merely of reſtoring the tone of the moving fibres.

Eighthly, The ſuppoſition of a morbific matter is quite ſuperfluous; for it explains nothing, without ſuppoſing that matter to produce a change in the ſtate of the moving powers, and a change in the ſtate of the moving powers, produced by other cauſes, explains every circumſtance without the ſuppoſition of a morbific matter; and, to this purpoſe, it may be obſerved, that many of the cauſes (CCCCLXXVIII.) exciting the gout, do not operate upon the ſtate of the fluids, but directly and ſolely upon that of the moving powers.

Laſtly, the ſuppoſition of a morbific matter is ſuperfluous; becauſe, without that, the diſeaſe can be explained in a manner more conſiſtent with its phenomena, with the laws of the animal oeconomy, and with the method of cure which experience has approved. We now proceed to give this explanation; but, before entering upon it, we muſt premiſe ſome general obſervations.

DIV.

The firſt obſervation is, that the gout is a diſeaſe of the whole ſyſtem, or depends upon a certain general conformation and ſtate of the body, which manifeſtly appears from the facts mentioned from (CCCCLXVII.

to CCCCLXXIII.). But the general ſtate of the ſyſtem depends chiefly upon the ſtate of its primary moving powers; and therefore the gout may be ſuppoſed to be an affection of theſe chiefly.

DV.

My ſecond obſervation is, that the gout is manifeſtly an affection of the nervous ſyſtem; in which the primary moving powers of the whole ſyſtem are lodged. The occaſional or exciting cauſes (CCCCLXXVIII.) are almoſt all, ſuch as act directly upon the nerves and nervous ſyſtem; and the greater part of the ſymptoms of the atonic or retrocedent gout are manifeſtly affections of the ſame ſyſtem. (CCCCXCIV. CCCCXCVI.). This leads us to ſeek for an explanation of the whole of the diſeaſe in the laws of the nervous ſyſtem, and particularly in the changes which may happen in the balance of its ſeveral parts.

DVI.

My third obſervation is, that the ſtomach, which has ſo univerſal a conſent with the reſt of the ſyſtem, is the internal part that is the moſt frequently, and often very conſiderably, affected by the gout. The paroxyſms of the diſeaſe are commonly preceded by an affection of the ſtomach (CCCCLXXXI.); many of the exciting cauſes (CCCCLXXVIII.) act firſt upon the ſtomach; and the ſymptoms of the atonic and retrocedent gout (CCCCXCIV. CCCCXCVI.) are moſt commonly and chiefly affections of the ſame organ. This obſervation leads us to remark, that there is a balance ſubſiſting between the ſtate of the internal, and that of the external parts; and, in particular, that the ſtate of the ſtomach is connected with that of the external parts, (XLIII.) ſo that the ſtate of tone in the one may be communicated to the other.

DVII.

Theſe obſervations being premiſed, I ſhall now offer the following pathology of the gout.

In ſome perſons there is a certain vigorous and plethoric ſtate of the ſyſtem (CCCCLXXVIII.), which at a certain period of life, is liable to a loſs of tone in the extremities (CCCCLXXX.). This is in ſome meaſure communicated to the whole ſyſtem, but appears more eſpecially in the functions of the ſtomach (CCCCLXXXI.). When this loſs of tone occurs while the energy of the brain ſtill retains its vigour, the vis medicatrix naturae is excited to reſtore the tone of the parts; and accompliſhes it, by exciting an inflammatory affection in ſome part of the extremities. When this has ſubſiſted for ſome days, the tone of the extremities, and of the whole ſyſtem, are reſtored, and the patient returns to his ordinary ſtate of health (CCCCLXXXV.).

DVIII.

This is the courſe of things, in the ordinary form of the diſeaſe, which we name the regular gout; but there are circumſtances of the body, in which this courſe is interrupted or varied. Thus, when the atony (CCCCLXXX. CCCCLXXXI.) has taken place, if the reaction (DVII.) do not ſucceed, the atony continues in the ſtomach, or perhaps in other internal parts, and produces that ſtate which we have, for reaſons now obvious, named the atonic gout.

DIX.

A ſecond caſe of variation in the courſe of the gout is, when to the atony, the reaction and inflammation have to a certain degree ſucceeded, but from cauſes either internal or external, the tone of the extremities, and perhaps of the whole ſyſtem, is weakened; ſo that the inflammatory ſtate, before it had either proceeded to the degree, or continued for the time requiſite for reſtoring the tone of the ſyſtem, ſuddenly and entirely ceaſes. Hence the ſtomach, and other internal parts, relapſe into the ſtate of atony; and perhaps have this increaſed by the atony communicated from the extremities: All which appears in what we have termed the retrocedent ſtate of the Gout.

DX.

A third caſe of variation from the ordinary courſe of the gout, is, when to the atony uſually preceding, an inflammatory re-action fully ſucceeds: But has its uſual determination to the joints by ſome circumſtances prevented; and is therefore directed to an internal part, where it produces an inflammatory affection, and that ſtate of things which we have named the Miſplaced Gout.

DXI.

We have thus offered an explanation of the circumſtances of the ſyſtem in the ſeveral ſtates of the gout; and this explanation we ſuppoſe to be conſiſtent with the phenomena of the diſeaſe, and with the laws of the animal oeconomy. There are indeed ſeveral queſtions which might be put with reſpect to the theory of the diſeaſe; any anſwers to which we have not given. But, though we could perhaps give an anſwer to many of theſe queſtions, it does not here appear neceſſary; as at preſent we intend only to eſtabliſh ſuch general facts with regard to this diſeaſe, as may lay a foundation for the cure of it, ſo far as experience has enabled us to proſecute it. Proceeding, therefore, upon the ſeveral parts of the pathology given, as ſo many matters of fact, we ſhall now conſider what may be attempted towards the cure of the diſeaſe.

DXII.

In entering upon this, we muſt obſerve, in the firſt place, that a cure has been commonly thought impoſſible; and we acknowledge it to be very probable, that the gout, as a diſeaſe of the whole habit, and very often depending upon original conformation, cannot be cured by medicines, the effects of which are always very tranſitory, and ſeldom extend to the producing any conſiderable change of the whole habit.

DXIII.

It would perhaps have been happy for gouty perſons, if this opinion had been implicitly received by them; as it would have prevented their having been ſo often the dupes of ſelf-intereſted pretenders, who have either amuſed them with inert medicines, or have raſhly employed thoſe of the moſt pernicious tendency. I am much diſpoſed to believe the impoſſibility of a cure of the gout by medicines; and more certainly ſtill incline to think, that, whatever may be the poſſible power of medicines, yet no medicine for curing the gout has hitherto been found. Although almoſt every age has preſented a new remedy, all hitherto offered have, very ſoon after, been either neglected as uſeleſs, or condemned as pernicious.

DXIV.

Though unwilling to admit the power of medicines, yet I contend, that a great deal can be done towards the cure of the gout, by a regimen: And from what has been obſerved (CCCCLXXII.), I am firmly perſuaded, that any man who, early in life, will enter upon the conſtant practice of bodily labour, and of abſtinence from animal food, will be preſerved entirely from the diſeaſe.

Whether there be any other means of radically curing the gout, I am not ready to determine. There are hiſtories of caſes of the gout, in which it is ſaid, that, by great emotions of mind, by wounds, and by other accidents, the ſymptoms have been ſuddenly relieved, and never again returned; but how far theſe accidental cures might be imitated by art, or would ſucceed in other caſes, is at leaſt extremely uncertain.

DXV.

The practices proper and neceſſary in the treatment of the gout, are to be conſidered under two heads: *Firſt*, As they are to be employed in the intervals of paroxyſms; or, *ſecondly*, As during the time of theſe.

DXVI.

In the intervals of paroxyſms, the indications are, to prevent altogether the return of paroxyſms, or at leaſt to render them leſs frequent, and more moderate. During the time of paroxyſms, the indications are, to moderate the violence, and ſhorten the duration of them as much as can be done with ſafety.

DXVII.

It has been already obſerved, that the gout may be entirely prevented by conſtant bodily exerciſe, and by a low diet; and I am of opinion, that this prevention may take place even in perſons who have a hereditary diſpoſition to the diſeaſe. I muſt add here, that, even when the diſpoſition has diſcovered itſelf by ſeveral paroxyſms of inflammatory gout, I am perſuaded, that labour and abſtinence will abſolutely prevent any returns of it for the reſt of life. Theſe, therefore, are the means of anſwering the firſt indication to be purſued in the intervals of paroxyſms; and I muſt here offer ſome remarks upon the proper uſe of theſe remedies.

DXVIII.

Exerciſe in perſons diſpoſed to the gout, is directed to two purpoſes: One of theſe is the ſtrengthening of the tone of the extreme veſſels, and the other, the guarding againſt a plethoric ſtate. For the former, if exerciſe be employed early in life, and before intemperance has weakened the body, a very moderate degree of it will anſwer the purpoſe; and, for the latter, if abſtinence be at the ſame time obſerved, little exerciſe will be neceſſary.

DXIX.

With reſpect to exerciſe, this in general is to be obſerved, that it ſhould never be violent; for, if violent, it cannot be long continued, and muſt always endanger the bringing on an atony in proportion to the violence of the preceding exerciſe.

DXX.

DXX.

It is alſo to be obſerved, that the exerciſe of geſtation, though conſiderable and conſtant, if it be entirely without bodily exerciſe, will not anſwer the purpoſe in preventing the gout. For this end, therefore, the exerciſe muſt be in ſome meaſure that of the body, and muſt be moderate, but, at the ſame time, conſtant, and continued through life.

DXXI.

In every caſe and circumſtance of the gout in which the patient retains the uſe of his limbs, bodily exerciſe, in the intervals of paroxyſms, will always be uſeful; and, in the beginnings of the diſeaſe, when the diſpoſition to it is not yet ſtrong, exerciſe may prevent a paroxyſm which otherwiſe might have come on. In more advanced ſtates of the diſeaſe, however, when there is ſome diſpoſition to a paroxyſm, much walking will bring it on; either as it weakens the tone of the lower extremities, or as it excites an inflammatory diſpoſition in them; and thus it ſeems to be, that ſtrains or contuſions often bring on a paroxyſm of the gout.

DXXII.

Abſtinence, the other part of our regimen (DXIV.) for preventing the gout, is of more difficult application. If an abſtinence from animal food be entered upon early in life, while the vigour of the ſyſtem is yet entire, we have no doubt of its being both ſafe and effectual; but, if the motive for this diet ſhall not have occurred till the conſtitution ſhall have been broken by intemperance, or by the decline of life, a low diet may then endanger the bringing on an atonic ſtate.

DXXIII.

Further, if a low diet be entered upon only in the decline of life, and be at the ſame time a very great change in the former manner of living, the withdrawing of an accuſtomed ſtimulus of the ſyſtem may readily throw this into an atonic ſtate.

DXXIV.

The ſafety of an abſtemious courſe may be greater or leſs according to the management of it. It is animal food which eſpecially diſpoſes to the plethoric and inflammatory ſtate, and that food is to be therefore eſpecially avoided; but, on the other hand, it is vegetable aliment of the loweſt quality that is in danger of weakening the ſyſtem too much, by not affording ſufficient nouriſhment, and more particularly, of weakening the tone of the ſtomach, by its aceſcency. It is therefore a diet of a middle nature that is to be choſen; and milk is preciſely of this kind, as containing both animal and vegetable matter.

As approaching to the nature of milk, and as being a vegetable matter containing the greateſt portion of nouriſhment, the farinaceous ſeeds are next to be choſen, and are the food moſt proper to be joined with milk.

DXXV.

With reſpect to drink, fermented liquors are uſeful only when they are joined with animal food, and that by their aceſcency; and their ſtimulus is only neceſſary from cuſtom. When, therefore, animal food is to be avoided, fermented liquors are unneceſſary; and, by increaſing the aceſcency of vegetables, theſe liquors may be hurtful. The ſtimulus of fermented, or ſpirituous liquors, is not neceſſary to the young and vigorous, and, when much employed, impairs the tone of the ſyſtem. Theſe liquors, therefore, are to be avoided, except ſo far as cuſtom and the declining ſtate of the ſyſtem may have rendered them neceſſary. For preventing or moderating the regular gout, water is the only proper drink.

DXXVI.

With reſpect to an abſtemious courſe, it has been ſuppoſed, that an abſtinence from animal food and fermented liquors, or the living upon milk and farinacea alone for the ſpace of one year, might be ſufficient for a radical cure of the gout: And it is poſſible that, at a certain period of life, in certain circumſtances of the conſtitution, ſuch a meaſure might anſwer the purpoſe. But this is very doubtful; and it is more probable, that the abſtinence muſt, in a great meaſure, be continued, and the milk diet be perſiſted in for the reſt of life. It is well known, that ſeveral perſons who had entered on an abſtemious courſe, and had been thereby delivered from the gout, have, however, upon returning to their former manner of full living, had the diſeaſe return upon them with as much violence as before, or in a more irregular, and more dangerous form.

DXXVII.

It has been alledged, that, for preventing the return of the gout, blood-letting, or ſcarifications of the feet frequently repeated, and at ſtated times, may be practiſed with advantage; but of this I have had no experience.

DXXVIII.

Exerciſe and abſtinence are the means of avoiding the plethoric ſtate which gives the diſpoſition to the gout, and are therefore the means propoſed for preventing paroxyſms, or at leaſt for rendering them leſs frequent, and more moderate. But many circumſtances prevent the ſteadineſs neceſſary in purſuing theſe meaſures; and, therefore, in ſuch caſes, unleſs great care be taken to avoid the exciting cauſes, the diſeaſe may frequently return; and, in many caſes, the preventing of paroxyſms is chiefly to be obtained by avoiding thoſe exciting cauſes enumerated in (CCCCLXXVIII.) The conduct neceſſary for avoiding them, will be ſufficiently obvious to perſons acquainted with the doctrines of the Hygieine, which we ſuppoſe to have been delivered in another place.

DXXIX.

A due attention in avoiding thoſe ſeveral cauſes, will certainly prevent fits of the gout; and the taking care that thoſe exciting cauſes be never applied in a great degree, will certainly render fits more moderate when they do come on. But, upon the whole, it will appear, that a ſtrict attention to the whole conduct of life, is in this matter neceſſary; and, therefore, when the prediſpoſition has taken place, it will be extremely difficult to avoid the diſeaſe.

DXXX.

I am indeed firmly perſuaded, that, by obviating the prediſpoſition, and by avoiding the exciting cauſes, the gout may be entirely prevented: But, as the meaſures neceſſary for this purpoſe will, in moſt caſes, be purſued with difficulty, and even with reluctance, men have been very deſirous to find a medicine which might anſwer the purpoſe, without any reſtraint on their manner of living. To gratify this deſire, phyſicians have propoſed, and to take advantage of it, empirics have feigned many remedies, as we have already obſerved. Of what nature ſeveral of theſe remedies have been, I cannot certainly ſay; but, of thoſe which are unknown, we conclude, from their having been only of temporary fame, and from their having ſoon fallen into neglect, that they have been either inert or pernicious, and therefore I make no inquiry after them; and ſhall now remark only upon one or two known remedies for the gout which have been lately in vogue.

DXXXI.

One of theſe is what has been named in England, the Portland Powder. This is not a new medicine, but is mentioned by GALEN, and, with ſome little variation in its compoſition, has been mentioned by the writers of almoſt every age ſince that time. It appears to have been at times in faſhion, and to have again fallen into neglect; and I think that this laſt has been owing to its having been found to be, in many inſtances, pernicious. In every inſtance which I have known of its exhibition for the length of time preſcribed, the perſons who had taken it were indeed afterwards free from any inflammatory affection of the joints; but they were affected with many ſymptoms of the atonic gout; and all, ſoon after finiſhing their courſe of the medicine, have been attacked with apoplexy, aſthma, or dropſy, which proved fatal.

DXXXII.

Another remedy which has had the appearance of preventing the gout, is an alkali, in various forms, ſuch as the fixed alkali, both mild and cauſtic, lime-water, ſoap, and abſorbent earths. Since it became common to exhibit theſe medicines in nephritic and calculous caſes, it has often happened, that they were given to thoſe who were at the ſame time ſubject to the gout; and it has been obſerved, that, under the uſe of theſe medicines, gouty perſons have been longer free from the fits of their diſeaſe. That, however, the uſe of theſe medicines has entirely prevented the returns of gout, I do not know; becauſe I never puſhed the uſe of thoſe medicines for a long time, being apprehenſive that the long continued uſe of them might produce a hurtful change in the ſtate of the fluids.

DXXXIII.

With reſpect to preventing the gout, I have only one other remark to offer. As the preventing the gout depends very much on ſupporting the tone of the ſtomach, and avoiding indigeſtion; ſo coſtiveneſs, by occaſioning this, is very hurtful to gouty perſons. It is therefore neceſſary for ſuch perſons to prevent or remove coſtiveneſs, and, by a laxative medicine, when needful; but it is at the ſame time proper, that the medicine employed ſhould be ſuch as may keep the belly regular, without much purging. Aloetics, rhubarb, magneſia alba, or flowers of ſulphur, may be employed, as the one or the other may happen to be beſt ſuited to particular perſons.

DXXXIV.

Theſe are the ſeveral meaſures from (DXVI. to DXXXIII.) to be purſued in the intervals of the paroxyſms; and we are next to mention the meaſures proper during the time of them.

DXXXV.

As during the time of paroxyſms the body is in a feveriſh ſtate, no irritation ſhould then be added to it; and every part, therefore, of the antiphlogiſtic regimen, (CXXIX. CXXX.) except the application of cold, ought to be ſtrictly obſerved.

Another exception to the general rule may occur, when the tone of the ſtomach is weak, and when the patient has been before much accuſtomed to the uſe of ſtrong drink; for then it may be allowable, and even neceſſary, to give ſome animal food, and a little wine.

DXXXVI.

That no irritation is to be added to the ſyſtem during the paroxyſms of gout, except in the caſes mentioned, is entirely agreed upon among phyſicians: But it is a more difficult matter to determine, whether, during the time of paroxyſms, any meaſures may be purſued to moderate the violence of reaction and of inflammation. Dr Sydenham has given it as his opinion, that the more violent the inflammation and pain, the paroxyſms will be the ſhorter, as well as the interval between the preſent and next paroxyſm longer; and, if this opinion be admitted as juſt, it will forbid the uſe of any remedies which might moderate the inflammation; which is, to a certain degree, undoubtedly neceſſary for the health of the body. On the other hand, acute pain preſſes for relief; and, although a certain degree of inflammation may ſeem abſolutely neceſſary, it is not certain but that a moderate degree of it may anſwer the purpoſe: And it is even probable, that, in many caſes, the violence of inflammation may weaken the tone of the parts, and thereby invite a return of paroxyſms. It ſeems to me to be in this way, that, as the diſeaſe advances, the paroxyſms become more frequent.

DXXXVII.

From theſe laſt conſiderations, it ſeems probable, that, during the time of paroxyſms, ſome meaſures may be taken to moderate the violence of the inflammation and pain, and particularly, that in firſt paroxyſms, and, in the young and vigorous, blood-letting at the arm may be practiſed with advantage: But I am perſuaded, that this practice cannot be repeated often with ſafety, becauſe blood-letting not only weakens the tone of the ſyſtem, but may alſo contribute to produce Plethora. I believe, however, that bleeding by leeches on the foot, and upon the inflamed part, may be practiſed, and repeated with greater ſafety; and I have known inſtances of its having been practiſed with ſafety, to moderate and ſhorten paroxyſms; but how far it may be carried, we have not had experience enough to determine.

DXXXVIII.

Beſides blood-letting, and the antiphlogiſtic regimen, it has been propoſed to employ remedies for moderating the inflammatory ſpaſm of the part affected, ſuch as warm bathing and emollient poultices. Theſe have ſometimes been employed with advantage and ſafety; but, at other times, have been found to give occaſion to a retroceſſion of the gout.

DXXXIX.

Bliſtering is a very effectual means of relieving and diſcuſſing a paroxyſm of the gout; but has alſo frequently had the effect of rendering it retrocedent.

DXL.

The ſtinging with nettles I conſider as analogous to bliſtering; and I think it probable that it would be attended with the ſame danger.

DXLI.

The burning with moxa, or other ſubſtances, I conſider as a remedy of the ſame kind. I have had, indeed, no evidence of this proving hurtful; but neither have I had any proper evidence of its having proved a radical cure.

DXLII.

Camphire, and ſome aromatic oils, have the power of allaying the pain, and of removing

moving the inflammation from the part affected; but theſe remedies commonly make the inflammation only ſhift from one part to another, and therefore with the hazard of its falling upon a part where it may be more dangerous, and they have ſometimes rendered the gout retrocedent.

DXLIII.

From theſe reflections (DXLI et ſeq.) it will appear, that ſome danger muſt attend every external application to the parts affected, during a paroxyſm; and that therefore the common practice of committing the perſon to patience and flannel alone, is eſtabliſhed upon the beſt foundation.

DXLIV.

Opiates give the moſt certain relief from pain, but, when given in the beginning of gouty paroxyſms, occaſion theſe to return with greater violence. When, however, the paroxyſms ſhall have abated in their violence, but ſtill continue to return, ſo as to occaſion painful and reſtleſs nights, opiates may be then given with ſafety and advantage, eſpecially in the caſe of perſons advanced in life, and who have been often affected with the diſeaſe.

DXLV.

When, after paroxyſms have ceaſed, ſome ſwelling and ſtiffneſs ſhall remain in the joints, theſe ſymptoms are to be diſcuſſed by the diligent uſe of the fleſh-bruſh.

DXLVI.

Purging, immediately after a paroxyſm, will be always employed with the hazard of bringing it on again.

DXLVII.

I have now finiſhed what has occurred to be ſaid upon the means of preventing and curing the regular gout; and ſhall now conſider its management when it has become irregular, of which I have obſerved there are three different caſes.

DXLVIII.

In the firſt caſe, which I have named the atonic gout, the cure is to be accompliſhed by carefully avoiding all debilitating cauſes, and by employing, at the ſame time, the means of ſtrengthening the ſyſtem in general, and the ſtomach in particular.

DXLIX.

For the avoiding debilitating cauſes, I muſt refer to the doctrines of the Hygieine, as in (DXXVIII.)

DL.

For ſtrengthening the ſyſtem in general, I muſt recommend frequent exerciſe on horſeback, and moderate walking. Cold bathing alſo may anſwer the purpoſe, and may be ſafely employed, if it appear to be powerful in ſtimulating the ſyſtem, and be not applied when the extremities are threatened with any pain.

For ſupporting the tone of the ſyſtem in general, when threatened with atonic gout, ſome animal food ought to be employed, and the more aceſcent vegetables ought to be avoided. In the ſame caſe, ſome wine alſo may be neceſſary; but it ſhould be in moderate quantity, and of the leaſt aceſcent kinds; and, if every kind of wine ſhall be found to increaſe the acidity of the ſtomach, ardent ſpirits and water muſt be employed.

DLI.

For ſtrengthening the ſtomach, bitters and the Peruvian bark may be employed; but care muſt be taken that they be not conſtantly employed for any great length of time.

The moſt effectual medicine for ſtrengthening the ſtomach is iron, which may be employed under various preparations; but, to me, the beſt appears to be the ruſt in fine powder, which may be given in very large doſes.

For ſupporting the tone of the ſtomach, aromatics may be employed; but ſhould be uſed with caution, as the frequent and large uſe of them may have an oppoſite effect, and they ſhould therefore be given only in compliance with former habits, or for palliating preſent ſymptoms.

When the ſtomach happens to be liable to indigeſtion, gentle vomits may be frequently given, and proper laxatives ſhould be always employed to obviate, or to remove coſtiveneſs.

DLII.

In the atonic gout, or in perſons liable to it, to guard againſt cold is eſpecially neceſſary; and the moſt certain means of doing this, is by repairing to a warm climate during the winter-ſeaſon.

DLIII.

In the more violent caſes of the atonic gout, bliſtering the lower extremities may be uſeful; but that remedy ſhould be avoided when any pain threatens the extremities. In perſons liable to the atonic gout, iſſues may be eſtabliſhed in the extremities, as, in ſome meaſure, a ſupplement to the diſeaſe.

DLIV.

A ſecond caſe of the irregular gout, is that which I have named the retrocedent.

When this affects the ſtomach and inteſtines, relief is to be inſtantly attempted by the free uſe of ſtrong wines, joined with aromatics, and given warm; or, if theſe ſhall not prove powerful enough, ardent ſpirits muſt be employed, and are to be given in a large doſe. In moderate attacks, ardent ſpirits, impregnated with garlic, or with aſa foetida, may be employed; or, even without the ardent ſpirits, a ſolution of aſa foetida, with the volatile alkali, may anſwer the purpoſe. Opiates are often an effectual remedy, and may be joined with aromatics, as in the Electuarium Thebaicum; or they may be uſefully joined with volat. alkali and camphire. Muſk has likewiſe proved uſeful in this diſeaſe.

When the affection of the ſtomach is accompanied with vomiting, this may be encouraged, by taking draughts of warm wine, at firſt with water, and afterwards without it; having at length recourſe, if neceſſary, to ſome of the remedies above mentioned, and particularly the opiates.

In like manner, if the inteſtines be affected with diarrhoea, this is to be at firſt encouraged, by taking plentifully of weak broth ; and when this ſhall have been done ſufficiently, the tumult is to be quieted by opiates.

DLV.

When the retrocedent gout ſhall affect the lungs, and produce aſthma, this is to be cured by opiates, by antiſpaſmodics, and, perhaps, by bliſtering on the breaſt or back.

DLVI.

When the gout, leaving the extremities, ſhall affect the head, and produce pain, vertigo, apoplexy, or palſy, our reſources are very precarious. The moſt probable means of relief is, bliſtering the head, ; and, if the gout ſhall have receded very entirely from the extremities, bliſters may be applied to theſe alſo. Together with theſe bliſterings, aromatics, and the volatile alkali, may be thrown into the ſtomach.

DLVII.

The third caſe of the irregular gout is what I named the Miſplaced, that is, when the inflammatory affection of the gout, inſtead of falling upon the extremities, falls upon ſome internal part. In this caſe, the diſeaſe is to be treated by blood-letting, and by ſuch other remedies as would be proper in an idiopathic inflammation of the ſame parts.

DLVIII.

Whether the tranſlation ſo frequently made from the extremities to the kidneys, is to be conſidered as an inſtance of the miſplaced gout, ſeems, as we have ſaid before, uncertain; but I am diſpoſed to think it ſomething different; and therefore am of opinion that, in the *Nephralgia Calculoſa* produced upon this occaſion, the remedies of inflammation are to be employed no farther than they may be otherwiſe ſometimes neceſſary in that diſeaſe, ariſing from other cauſes than the gout.

End of the FIRST VOLUME.